THE MILKEN INSTITUTE
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SECOND QUARTER 2000
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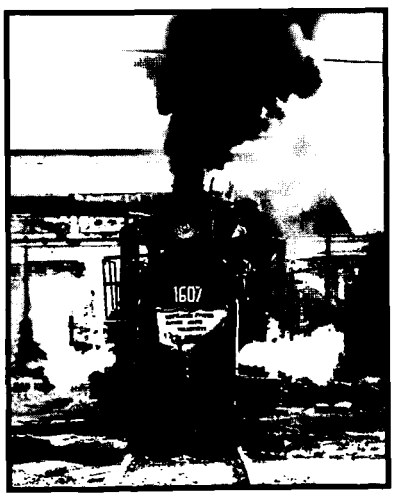

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Don't know what to do with the budget surplus?

Worried that the Russian economy is down for the count? Afraid that global warming will fry the tropics? Pull up a cozy chair, pour another dollop of single malt and read on. The sixth issue of *The Milken Institute Review* doesn't have the answers to all that ails the world economy, but we're working on it.

Rudy Penner, a former director of the Congressional Budget Office who now keeps an eye on matters fiscal from the more contemplative clime of the Urban Institute, offers some straight talk on the budget surplus. "Although the disposal of the surplus has become as politically contentious as reducing the earlier deficit, it is important to remember how lucky we are," writes Penner. "We can carp all we want about the relative benefits of paying off the debt versus cutting taxes versus increasing spending, but it is like arguing over the choice between chocolate cake and a hot fudge sundae."

Julia Sweig, deputy director of the Council on Foreign Relations' Latin American studies program, offers some much needed perspective on Cuba's economic end-game. "Over Chinese food in Old Havana a couple of years ago, a retired Cuban intelligence officer told me that the heart of Cuba's policy toward the United States is to keep us 'not too close and not too far,'" she says. "Indeed," Sweig adds, "there is an unspoken and unintentional complicity at work between the two governments, each of which must contend with domestic constituencies that resist more accelerated transformations."

By the way, check out the never-before-published photos by **Vern Evans** that complement the Cuba piece; they're knockouts.

Robert Mendelsohn, an economist who coexists with the tree huggers at Yale's School of Forestry and Environmental Studies, has some inflammatory things to say about global warming. "There is little collective incentive to spend heavily to slow warming," he writes. "The economies that signed the Kyoto agreement no longer have compelling national interests at stake. Indeed, once reality sets in, the developed countries may be quite content to argue about treaty details indefinitely before implementing a binding agreement."

Larry White, an economist at New York University's Stern School of Business who has earned his regulator's stripes in three presidential administrations, tells you what you need to know about the faddish new subject of network economics. "It is easy to exaggerate the difficulties that networks pose, and policy wonks with an interventionist bent are prone to do so," he explains. "Remember that gasoline-powered cars did supplant carriages in spite of the problem of finding fuel," and that "CDs have replaced vinyl records, even though very few CD play-

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ers were around at the creation."

This year's Milken Institute Global Conference featured not one, not two, but eight Nobel Prize winners in economics. Yes, **Ken Arrow** (Stanford), **Gary Becker** (Chicago), **James Buchanan** (George Mason), **Larry Klein** (Penn), **John Nash** (Princeton), **Doug North** (Washington-St. Louis), **Myron Scholes** and **Reinhard Selten** (Bonn) offered their views on everything from the promise of the Internet to the relevance of game theory to the life expectancy of women. **Michael Milken**, chairman of the Institute, was on hand to moderate.

We boiled down the two hour-long roundtable sessions to 11 pages of prose. Those who thirst for more wisdom from the Nobelists can find an unexpurgated version on the Institute's Web site (www.milkeninstitute.org).

This issue's book excerpt is by **Serguey Braguinsky** and **Grigory Yavlinsky**. Braguinsky teaches economics in Japan. Yavlinsky is the former economic whiz kid who now runs Yabloko Party, the last significant block of western-oriented reformers left in the Russian Duma.

Braguinsky and Yavlinsky tell it like it is: "Far from creating an open market," they write, "Russia has consolidated the role of a semi-criminal oligarchy that was already largely in place under the old Soviet system."

That may come as no surprise, but the pair's prescription for getting out of the corporatist trap surely will. They envision a new social contract in which those who want to do business in the New Russia openly pay the state for protection against organized crime. "The Russian government, by and large, is a captive of the oligarchic pressure groups that oppose change," they acknowledge. "Rather than simply deplore this situation, we are inclined to create incentives for the government to change itself."

Still have some time on your hands? Get a life. Or better yet, read the dandy features that fill out this issue:

VERN EVANS

- A charticle on dollarization, by Institute researcher **Tom Hall**.
- A review of Paul Ormerod's *Butterfly Economics*, by **Sylvia Nasar**, the prizewinning author of *A Beautiful Life*.
- An essay on the aging of the baby boomers and the schisms it will create between central cities and suburbs by Institute fellow **Bill Frey**.
- A subjective survey of the latest research in economic policy by yours truly.
- *Ekinomix*, in which cartoonist **Mark Alan Stamaty**'s take on George Dubya's plan to cut taxes.

— Peter Passell

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BY RUDOLPH PENNER

"The surplus is out of control" complains Bill Archer, Chairman of the House Ways and Means Committee.

Indeed. In January 1993, the Congressional Budget Office projected a budget deficit of $357 billion for the 1998 fiscal year. The actual outcome was a surplus of $69 billion, the first surplus since Richard Nixon was in the White House. About $130 billion of the difference is the result of changes in spending and tax policy. The rest ($296 billion) was what economists embarrassingly call a "forecasting error."

The CBO, now playing catch-up, continues to add to its projections of future excess. In March, it forecast surpluses of $273 billion in 2005 and $495 billion in 2010, provided discretionary spending grows at the same rate as inflation. And in light of the ebullience of the economy, it is very likely that the CBO will again add to its surplus estimates when it next reports in July.

WHERE DID THE SURPLUS COME FROM?

Every budget forecast is built on assumptions that don't prove correct. When the forecast is on target, it's usually the lucky result of having the errors offset each other. But in the past seven years, the errors have almost all gone in one direction – and the result has been gargantuan misses on the side of pessimism.

In the late 1990s, revenues began to grow much faster than GDP. In the four-year period 1995-98, personal income taxes grew at an especially rapid rate, propelled partly by the capital gains bonanza related to the irrational exuberance of the stock market. Tax payments by the very rich also soared, a good chunk of which amounted to a levy on Wall Street bonuses.

The 1993 increase in the top tax bracket added to the tax revenues extracted from exploding incomes at the top – a consequence that did not fit well into the worldview of supply-side economists. By 1998, the top 1.6 percent of income-tax payers – those with earnings over $200,000 – were responsible for an astonishing 39.8 percent of tax collections. All told, personal income taxes rose from 7.8 to 9.6 percent of GDP between 1994 and 1998, while total tax revenues rose from 18.1 to 19.9 percent of GDP.

Last year, the pace of collections cooled a bit: revenues grew at about the same rate as the economy. But real GDP growth remained well above 4 percent, astounding the many forecasters who had expected a significant slowdown. After all, expansions are supposed

RUDY PENNER, formerly the director of the Congressional Budget Office, is a senior fellow at the Urban Institute in Washington.

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to begin rapidly and then taper off. But this Goldilocks economy has been accelerating since the mid-90s.

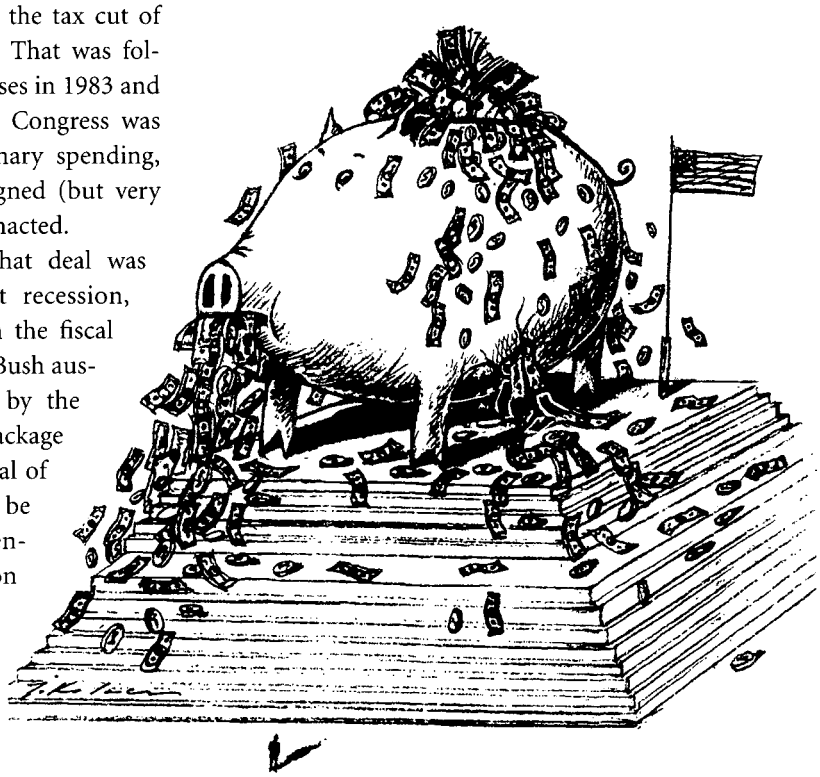
The CBO was also surprised by a reduction in the rate of growth of Medicare costs. In early 1993, it projected an annual growth rate of 12.1 percent for the following five years. Yet the actual annual growth rate of the medical insurance program for the elderly and disabled was only 8.1 percent. And, in 1999, Medicare costs declined – that's right, declined – for the first time in the history of the program. It seems that cost-saving measures, passed as part of the budget agreement of 1997, imposed much more restraint than anticipated.

Although the surplus surprised forecasters, it is important to emphasize that it would not exist were it not for important policy changes. Some very brave legislators spent much of the 1980s and early 1990s raising taxes and restraining spending – unpleasant work for politicians. In 1982, the tax cut of 1981 was substantially pared. That was followed by significant tax increases in 1983 and 1984. Throughout the 1980s, Congress was tough on domestic discretionary spending, and in 1990, the much maligned (but very large) Bush budget deal was enacted.

The positive impact of that deal was obscured by the subsequent recession, but it played a major role in the fiscal successes of recent years. The Bush austerity package was followed by the somewhat smaller Clinton package in 1993 and by the budget deal of 1997, which was expected to be small but had the aforementioned serendipitous impact on Medicare. Note, too, that the end of the cold war had an important beneficial effect: defense spending fell sharply relative to GDP after the transitory surge linked to Operation Desert Storm.

Demography also played an important role in balancing the books. Start with the reality that, separating out interest payments on the debt, more than half of all civilian spending goes to people over 65. Social Security is now the government's largest program, having overtaken defense in 1993. Medicare spending will soon surpass defense, and Medicaid payments for long-term care (mostly of the elderly) have grown rapidly in recent decades. Civil service and military pensions are also significant, while those elderly who are impoverished absorb a significant portion of welfare spending.

Yet, in recent years, demographic pressures on the budget have eased because the people born during the Great Depression have begun retiring, and there simply are not many of them. The bad news here, of course, is that the birth trough of the Depression was followed



JERZY KOLASCZ

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by the baby boom of the late-1940s and 1950s. And as the boomers start retiring in large numbers after 2010, surpluses will begin to decline relative to GDP. Eventually, then, there will again be deficits as far as the eye can see, unless programs for the elderly are radically reformed or taxes are raised to European levels.

HOW WILL THE SURPLUS BE USED?

Politicians have not yet become accustomed to a world of large surpluses. Moreover, it seems that as soon as they develop a plan for allocating the surplus, the CBO raises the surplus estimates yet again. Thus, we have not yet observed a political equilibrium around surpluses; that makes policy forecasting difficult.

The cumulative surplus now projected for the period 2001-10 is about $3.2 trillion, $2.3 trillion of which is dedicated to the Social Security trust fund. These sound like huge sums, sufficient to satisfy the spending dreams of the most profligate politician while leaving room to pay off a large portion of the $3.5 trillion publically held government debt. But a trillion dollars doesn't go very far these days: the cumulative surplus amounts to just 2.5 percent of GDP expected over the period.

To put that amount in perspective, remember that the ratio of government revenues to GDP rose by 1.8 percentage points between 1994 and 1998. So if this ratio falls back to what it was, the consequent increase in the interest cost of the national debt would be sufficient to eliminate most of the surplus.

Assuming that revenues come in as projected, both the Congress and the two presidential candidates hope to use a hefty chunk to repay the national debt. More precisely, the notion has taken root that it would be good to devote the entire surplus in the Social Security trust fund to that end. The nobility of goal is somewhat sullied, however, because its pursuit is justified by rhetoric that implies that Social Security benefits will be less secure if the goal is not accomplished. And that is mostly nonsense.

First, there is no direct legal or economic link between how the trust-fund surplus is used and the probability that promised benefits will be paid. In the first instance, the trust-fund surplus will be used to purchase securities from the United States Treasury. The Treasury can use the money that it receives either to repay some of the national debt or to finance a deficit in the non-Social Security operations of the government. But eventually the money will have to be given back to the trust fund to finance future benefits. This must occur, regardless of how the Treasury uses the cash in the interim.

It is hard to argue that an ever-increasing share of the nation's wealth should be devoted to providing higher incomes to the relatively affluent elderly, so that they can enjoy ever-longer retirements.

The only impact on the probability that future benefits will actually be paid is indirect. If the trust-fund surplus is used to redeem debt that is now in the hands of the public, the interest bill facing the government will be lower in the future. In addition, the economy is likely to grow a bit faster because

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the reduction in government debt will release resources that can be used to finance private investment. Both the reduced interest costs and the added growth would make promised Social Security benefits more affordable – but, then, they would also make defense, tax cuts, highways and assistance to poor children more affordable.

Hence, there is no assurance that the reward from saving the Social Security surplus will be spent on Social Security – nor is there any compelling reason that it should be. Indeed, it is hard to argue that an ever-increasing share of the nation's wealth should be devoted to providing higher incomes to the relatively affluent elderly, so that they can enjoy ever-longer retirements.

But will the goal of using the entire Social Security surplus to redeem debt be achieved? It seems unlikely for several reasons. First, the political pressures favoring spending increases and tax cuts are now so powerful that it is doubtful they can be satisfied using only the resources provided by the surplus outside the Social Security trust fund – what insiders call the "on budget" surplus. The CBO's projections of that surplus assume discretionary spending will be held constant in real terms, a highly unlikely situation. There is a broad consensus that defense spending must be increased after a long drought, and the Congress seems in no mood to be stingy with regard to civilian spending.

In fact, the Congress went on a discretionary spending spree last year that largely went unnoticed because it was obscured by a host of budget gimmicks. These primarily involved artificial delays in spending in the 2000 fiscal year, so much of the budgetary impact will not show up until early in 2001. The Pentagon was also pressured to use some of its appropriation quickly so that the spending appeared in 1999 instead of 2000. And some agricultural spending was redefined as an entitlement, so that discretionary spending would not appear to be so bloated.

Adjusting for these artificial changes in the timing of spending, the real increase in spending for 2000 will be more than 5.5 percent. One must go back to the Reagan defense buildup of the mid-80s to find an increase of comparable magnitude and back to the Vietnam defense buildup to find anything much bigger. It would take an extreme swing toward stringency to freeze spending now in real terms. Indeed, even if discretionary spending grows only at the rate of GDP almost all the surplus outside of Social Security will disappear by 2010.

In addition to increasing discretionary spending, Congress seems determined to increase entitlement spending as well. A prescription drug benefit in Medicare is likely to pass without offsetting savings, and the elimination of the retirement test in Social Security will add some billions to spending over the next few years. Both parties also want to cut taxes, with wide agreement that the marriage penalty should be eased. Bush is eager to cut marginal tax rates as well, while Gore is proposing a plethora of tax credits in lieu of targeted spending increases.

Many analysts hope that the desire to save the Social Security surplus will restrain spending increases and tax cuts. But the budget rule requiring that this surplus be saved effectively requires that the budget for the non-Social Security part of the government must stay in balance. And that obligation contains the seeds of its own destruction.

The problem is that we cannot forecast the on-budget balance very accurately: projections of next year's budget balance can easily change by $100 billion over six months. But given the political climate, any unexpected additions to the projected on-budget surplus

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are likely to be used up quickly for tax cuts and spending increases. Conversely, it will be politically impossible for the Congress to raise taxes or to cut spending fast enough to keep up when projections start deteriorating. Just look back: the Gramm-Rudman law of 1985 that attempted to balance the overall budget was jettisoned in 1990 as deficit forecasts became more pessimistic.

Consequently, there is little hope that we shall actually use the entire Social Security surplus for retiring debt over the long run. Nevertheless, the immediate fiscal outlook is so good that it seems reasonable to assume that some surplus will remain and that much debt will be retired. In fact, there is a very good chance that by 2010 the debt to GDP ratio will fall to levels considerably lower than the previous post-World War II low of 23.8 percent, achieved in 1974. The combined public debt holdings of the Federal Reserve, foreigners, and state and local governments about equal this portion of GDP, so it is easy to foresee a shortage of public debt as a vehicle for conservative private investment.

HOW SHOULD THE SURPLUS BE USED?

It seems safe to assume that the overall budget surplus will last for a good many years, even though it may be reduced to levels below the surplus in the Social Security trust fund. At this time, it makes sense to be particularly cautious in formulating budget policy. After all, the forecast that Social Security and Medicare spending will rise rapidly after 2010 is more certain than most budget forecasts because the people who have their hands out are already living among us.

In the longer run, the spending increase will be very large, and without reforms or major tax increases there is a risk of a debt explosion. That suggests it would be prudent to repay a high portion of the public debt while we can in order to prepare for the burdens to come.

Retiring the whole debt may not be advisable, because the investment of any remaining surpluses in private financial markets could cause some political mischief. But it would be good to break the post-World War II record and get the debt considerably below 25 percent of GDP. Once we are certain that we can accomplish that goal, we can have some fun cutting taxes and increasing spending. However, the goal is unlikely to be achieved before the end of 2004.

Alternatively, some of the surplus could be used to ease the transition to funding public pensions through individual accounts. Tax cuts could compensate workers during the period in which they would be obligated to finance both benefits for those already retired and their own future benefits.

If the growth of Social Security benefits could be slowed in return for establishing individual accounts, I would become an enthusiastic advocate for using much of the rest of the surplus for tax cuts. However, it is difficult to imagine that we shall accomplish this any time soon. Regardless of who wins the White House, the current political outlook suggests that neither party will have a large enough majority in the House to implement any radical policy change.

Although the disposal of the surplus has become as politically contentious as reducing the earlier deficit, it is important to remember how lucky we are. We can carp all we want about the relative benefits of paying off the debt versus cutting taxes versus increasing spending, but it is like arguing over the choice between a chocolate cake and a hot fudge sundae. We spent most of the 1980s and early 90s forcing down the broccoli, and now it's a matter of choosing among desserts. M

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Who says economics research is dull and irrelevant?

Well, lots of people – and, often as not, they're right. But don't despair. With help from *The Milken Institute Review*'s staff of thousands, I've once again managed to collect smart stuff that bears a closer look.

IF IT MOVES, TAX IT

Ordinary folks don't like taxes because of the "distributional" effect – the fact that taxes leave them with less to spend. Economists are people, too. But they are inclined to focus on the "efficiency" effects of taxation. Virtually every tax changes the relative prices of goods and services, they say, and thereby distorts what is made and how. But some taxes are more inefficient than others.

Jerry Hausman, an economist at MIT, looks at levies on wireless phone services and pronounces them a wretched mess. Federal, state and local taxes collectively increase cell phone bills by 14 to 25 percent, he reckons, generating a bit less than $5 billion annually in state, local and federal revenues. But in the process of shifting this $5 billion from private pockets to the public purse, Hausman estimates, roughly $2.6 billion in potential output is lost. That is, the resulting disincentive to use cell phones costs consumers an extra $2.6 billion beyond the $5 billion in taxes by diverting resources away from their most valued uses.

Is this distortion greater than the distortion created by, say, broad-based income taxes and sales taxes that create disincentives to work? You betcha – largely because wireless phones are subject to "network externalities" that make cell phone service more valuable to me if others are connected. So taxes that inhibit the growth of the wireless network are especially inefficient.

Hausman estimates that an extra dollar of government revenue collected from wireless services costs the economy something on the order of $2. That's two to four times more wasteful than broad-based taxes. [*"Efficiency Effects on the U.S. Economy From Wireless Taxation," National Bureau of Economic Research Working Paper 7281. Can be downloaded (for a fee) from www.nber.org.*]

WELFARE REFORM (CONT'D)

One trouble with welfare reform – and the reason it was bitterly resisted by unions – is that the government-mandated addition to the labor force either lowers wages or raises unemployment. And since virtually all of the new labor lacks marketable skills, welfare dropouts compete directly with workers who benefited least from the prosperity of the 1990s.

That said, the timing of

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welfare reform could hardly have been better. The demand for labor has grown significantly since the act went into effect in 1996. Hence, it is entirely possible that the market has expanded sufficiently to absorb all the new workers. What's more, the Earned-Income Tax Credit – Washington's awkward name for low-end wage subsidies – has been substantially beefed up in recent years, offsetting the negative impact of rising labor supply on the incomes of unskilled workers.

Robert Lerman, Pamela Loprest and Caroline Ratcliffe of the Urban Institute in Washington analyzed the labor market impact in 20 bellwether cities. And their findings are mixed. Under a set of plausible assumptions about how many welfare recipients will enter local low-skill labor markets, they estimated that demand growth will clearly exceed supply growth in Atlanta, Dallas, Indianapolis, Jacksonville, Phoenix and (of course) San Jose. At the other end, Baltimore, New York, St. Louis and Washington are likely to see rising unemployment among the low-skilled, compounding the woes of these older cities where unemployment was already high.

Does that mean welfare reform was a mistake? Hardly. But it should serve as a warning that low-skilled workers are the most vulner-

Good Morning, Vietnam!

Out of sight, out of mind. When was the last time you thought about Vietnam? To refresh your memory, Vietnam was the wretchedly primitive country that was able to fight the United States' armed forces to a standstill with only a little help from its Leninist friends. But after the war, this land of citizen soldiers had a lot of trouble making its economy work. Indeed, until the last decade, Vietnam was one of the poorest countries on the planet, ranking down there with basket cases like Nepal and Haiti.

But that's all changed – or at least is on the way to changing. Paul Glewwe, Michele Gragnolati and Hassan Zaman of the World Bank note that Vietnam's *perestroika*, which included both market reforms and an opening to foreign investment, led to 6 to 7 percent growth for much of the 1990s. And using data from two detailed household income surveys, the three economists discovered that a rising tide has carried all boats: income distribution has not become less equal.

Of course, these improvements need to be put in perspective. As in most poor countries, the bulk of the growth has taken place in urban areas, and the growth probably has widened the income gap between northern Vietnam and the more westernized south. What's more, the economy has a long way to go: half of the rural population still lives below the poverty line.

But the broad-based growth of the 1990s does bode well for social stability, increasing the probability that Vietnam will make a relatively smooth transition to capitalism and prosperity. Markets, as usual, are proving mightier than AK-47s. [*"Who Gained From Vietnam's Boom in the 1990s?" World Bank Working Paper 2275. Download free from www.world bank.org.*]

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able to an economic slowdown. And regardless of what we'd like to think, the recession-free economy will not always be with us. [*"How Well Can Urban Labor Markets Absorb Welfare Recipients," New Federalism series A-33. Download free from newfederalism.urban.org.*]

GENERATION WARS

As one distinguished economist-journalist put it, "Social Security is a Ponzi scheme with socially redeeming features." In their latest exercise in "generational accounting," Jagadeesh Gokhale of the Federal Reserve Bank of Cleveland and Laurence Kotlikoff of Boston University show just how far that Ponzi game has progressed.

Washington's decision to finance the first half-century of Social Security on a pay-as-you-go basis has left the system with an actuarial deficit in the ballpark of $8 trillion. Hence, short of a decision to fund the budget deficit by borrowing from the public, the gap must be closed by raising taxes on current and future workers or by reducing benefits to retirees.

Either way, it's a bad deal for those not yet retired. An immediate payroll tax increase of 38 percent without a change in benefits would raise the baby boomers' net loss (benefits less taxes) from 5.3 percent to 5.7 percent of every dollar of lifetime earnings. And it would be an even worse deal for future workers born between 1995 and 2000: their net loss would rise from 5.4 percent of lifetime earnings to 8.1 percent. A benefit cut, by contrast, at least has the virtue of hitting all non-retirees equally.

So, what should we be

In the Footsteps of Giants

Not so long ago, small countries felt it was almost as important to have independent currencies as it was to have their own national flags and airlines. But for a variety of reasons, the worm has turned. The currencies of a dozen countries ranging from Costa Rica to Hong Kong formally or informally "track" the United States dollar. Another dozen ranging from Bulgaria to Iceland tracked the German mark until it was absorbed into the euro bloc.

Patrick Honohan of the World Bank and Philip Lane of Trinity College in Dublin note that the euro has already inherited the D-mark trackers and is likely to attract a host more trackers – mostly small countries on the geographic periphery of the European Monetary Union. Is this a good thing? Should the EMU encourage or discourage tracking?

The 1997 collapse of most of the Asian currencies that tracked the dollar suggests that "benign neglect" is probably not a wise policy, say Honohan and Lane. One way or another, a sudden change of value in a tracker's currency will have an unwanted impact on the trackee. Indeed, while they don't offer an explicit prescription, the two economists plainly believe that the EMU should offer support against instability to trackers in return for a considerable say in their fiscal and monetary policies.

Sounds as if these guys are reconciled to – maybe even pleased with – the prospect of the rise of regional currency blocs built around the dollar, yen and euro. [*"Pegging to the Dollar and the Euro," International Finance, November 1999.*]

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rooting for? No amount of twisting and turning will change the reality that the first waves of retirees under Social Security are living well at the expense of future retirees. However, if labor productivity and wages rise sufficiently over the next few decades, the burden will be a lot easier to bear. It's also worth rooting for a continuing boom in equity prices that feathers the nests of private pension plans – and thereby makes life brighter for those who will have to pay for the retirement of others. [*"Social Security's Treatment of Postwar Americans: How Bad Can it Get?" National Bureau of Economic Research Working Paper 7362. Can be downloaded from www.nber.org.*]

BETTER LIVING THROUGH PHYSICS

Cooking your hamburgers until they're gray and leathery? Washing supermarket chicken as though your life depended on it? Afraid to order a Caesar salad because it's made with raw eggs? Food poisoning, always an issue in America, never seems to be far from the headlines these days. And it's driving gourmands – not to mention the public health establishment – plum crazy.

But as Randy Lutter, a fellow at the AEI-Brookings Joint Center for Regulatory Studies, points out, the technology for eliminating food-borne pathogens is out there for the asking. The only hitch: the regulators whose job it is to keep the poisons out of the food supply are

Drowning in Cash

If you're over 40 and took an introductory economics course in college, the term "liquidity trap" should be vaguely familiar. It comes from John Maynard Keynes's efforts to explain why monetary stimulus appeared to be so ineffective in pulling the world economy out of the Great Depression. (Remember the analogy to "pushing on a string"?)

The liquidity trap has popped up now and again, mostly in the context of rather sterile partisan debates over the value of Keynesian ideas in modern (postmodern?) economics. But the latest revival, by Paul Krugman of MIT, should be taken very seriously, indeed. Krugman, who's as good an economist as he is a journalist (which is saying something), believes that Japan is caught in precisely the sort of Depression-like deflationary spiral that makes the liquidity trap relevant.

There's a catch here, though. Keynes said the only way out of a liquidity trap was through fiscal policy – that is, for government to feed public and private demand with tax cuts and/or government spending. But Japan is rapidly using up that option, running budget deficits so large that private capital markets are reluctant to absorb the securities.

Krugman has a lovely "explainer," which lays out the arguments for a liquidity trap and the unintuitive import for public policy, posted on his personal Web site. It's tough going for non-economists, but worth the effort. And the Web site has lots of stuff posted that requires no particular expertise, including many of his columns from *Slate* and *Fortune* magazine. [*"Thinking About the Liquidity Trap." Unpublished paper can be downloaded free from web.mit.edu/Krugman/www.*]

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in the way.

Well, it's a little more complicated than that – but not a lot more. According to the World Health Organization and even the U.S. Food and Drug Administration, food irradiation would be a cheap, safe and very effective way of preventing millions of cases of food poisoning, minor and major, each year. Yet just a tiny fraction of the at-risk food supply is irradiated today.

In some cases, irradiation changes the taste or smell of food. But the primary reason more food isn't sterilized with radiation is that consumers are afraid of it and the Department of Agriculture (which shares regulatory responsibility with the Food and Drug Administration) is afraid to get out in front of popular opinion by encouraging food producers to make the switch. In fact, the only foods to be approved for irradiation thus far are poultry and spices. Decisions on seafood, eggs and precooked meats – big sources of poisoning all – are years away.

Why is this a matter of economic policy? Strictly speaking it isn't. But economists seem to be the only social scientists who are passionate about risk-reward tradeoffs in regulation. For the question here isn't whether irradiation is absolutely, positively risk-free, but whether it is less risky than business as usual. [*"Food Irradiation – the Neglected Solution to the Problem of Foodborne Illness," Policy Matters 00-1. Download free from www.aei.brookings.org.*]

POTEMKIN FED?

Suppose Chairman Alan orders an end to the party and the band plays on? Suppose the Federal Reserve moves to temper economic demand by tightening credit, yet the economy keeps growing and growing?

This is no joke (at least as of this writing). The "real" economy, which has been expanding faster than even the optimistic estimates of the maximum growth rate consistent with stable prices, has yet to respond to Dr. Greenspan's mix of cautionary words and higher interest rates.

In a prescient paper delivered last July, Benjamin Friedman of Harvard suggested that the influence of central banks over economic activity is waning because the ability to create credit in contemporary economies is slipping beyond the central banks' control. That's because the primary source of central bank power – the government's monopoly over the supply of private bank reserves – matters less and less since borrowers can elude the impact through the use of everything from credit cards to short-term debt markets.

How much should we care? Certainly, the implied paradox is worth noting: most economists believe that central banks have largely been responsible for stopping inflation in the last two decades, even as their power to determine the amount of liquidity in the economy has apparently waned.

The big question is whether we can get along without a strong monetary authority at the helm. If we can't, regulatory authority over credit creation in non-bank markets will have to be expanded. And hardly anyone who believes that the success of the American economy in recent years is linked to the exceptional freedom and efficiency of its capital markets is looking forward to more government intervention. [*"The Future of Monetary Policy: the Central Bank as an Army With Only a Signal Corps?" forthcoming in Richard Cooper and Richard Layard (eds.), Social Science and the Future, MIT Press.*]

— Peter Passell

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Hanging on

The Cuban Economy at the End of History

By Julia Sweig
Photographs by Vern Evans

Sometimes the inevitable doesn't happen: Ten years after the collapse of the socialist bloc, Fidel Castro still governs Cuba. Indeed, Cuba reported a 6.2 percent growth rate in 1999 – one of the highest in Latin America. And though the official figures do not provide a full picture of the island's economy, it seems unlikely that economic troubles will force a sea change in policy as long as Fidel remains at the helm.

While the rest of the socialist world (save North Korea) has hedged its bets by making some sort of peace with capitalism, Fidel remains firmly in the opposition – a dogmatic dissident who rejects the "neoliberal" doctrine of competition, deregulation and privatization as the path to growth. In central Europe, economic reform came to symbolize a reassertion of national sovereignty after decades of externally imposed communism. But in Cuba, where the revolution was homegrown, socialism and nationalism have become thoroughly fused. Thus, adopting IMF and World Bank prescriptions, à la Poland or Argentina, is seen as tantamount to ceding national sovereignty to the empire to the north.

Washington tends to take this defiance personally, forgetting that Fidel Castro has always been most comfort-

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able in the opposition. Indeed, there is a remarkable continuity between the survival strategies he relied on before the revolution, and the formula he uses today to keep the ship of state on course. The six key resources that buttressed the insurgency almost half a century ago were:

- **Cuban Émigrés.** The Cuban diaspora ranged from New York to Caracas to Madrid. And Castro's 26th of July Movement relied heavily on émigrés' financial contributions to purchase weapons, and their enthusiasm for jettisoning Batista to gain American sympathy.
- **Diverse Supply Networks.** At the beginning of the insurgency, the revolutionaries depended almost exclusively on Cuban allies for material resources. By 1958, Castro had diversified by bringing in weapons from Venezuela, Costa Rica, Mexico and the United States.
- **Alliances at Home.** Castro cultivated tactical alliances with everyone from Cuba's white-collar elite to the military to the Catholic Church – and eventually with the local Communist Party.
- **International Sympathy.** The revolutionaries astutely appealed to the international community, whether at the United Nations in New York, or the International Red Cross in Geneva, for support against Batista.
- **The United States.** Castro's allies managed a clever, indirect dialogue with Washington. Cubans regularly visited the State Department and the U.S. Congress, lobbying for an embargo on weapons to Batista.
- **The Press.** Castro and his underground comrades benefited enormously from a calculated use of the media to promote their cause both in Cuba and the United States.

These strategies remain a cornerstone of Cuba's resiliency. Today, remittances from Cuban-Americans rank second to tourism as Cuba's top source of revenue. Since the collapse of the Soviet bloc, Castro has diversified Cuba's trade and investment partners to include Canada, Latin America, Europe and Asia. And as the post-Soviet financial crisis deepened in the first half of the 1990s, Castro sowed important domestic alliances with Catholics, Protestants, Santeros and Jews. With help from brother Raul, Fidel has consolidated control over the military, which, not by chance, now has a hand in the most profitable corners of the Cuban economy.

Meanwhile, the international community has wrapped the island in a blanket of sympathy in reaction to the extraterritorial aspects of two embargo-tightening American laws, the 1992 Cuban Democracy Act and the 1996 Helms-Burton Act. And with the limited openings that do exist, Castro manages considerable leverage on how and when to engage with America. Finally, Castro retains his flare for what makes good international press, while tightly controlling the mass media at home.

WILL THE TORTOISE OUTLAST THE HARE?

Between 1991 and 1993, Cuba's economy contracted by a whopping 35 percent following the withdrawal of the multibillion dollar Soviet subsidy. With neither sugar-for-oil barter arrangements, nor profits from re-exporting refined Soviet crude, Cuba's energy supply plummeted. Blackouts of several hours per day became the norm. Cubans lost hope – and weight.

In response to the euphemistically dubbed "Special Period in Times of Peace," Cuba undertook reforms aimed at balancing

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between the obvious need for adjustment, and the risk that a rapid economic opening would undermine the regime.

Dollarization

Among the most significant was the 1993 decision to legalize the use of United States dollars. Cuban émigrés now send an estimated $500 million to $800 million annually to family members. Indeed, Cuban economists have begun to characterize Cuban-Americans not as the counterrevolutionary "scum" of days past, but as a part of the Cuban labor force that happens to live outside of Cuba's borders.

To capture the hard currency, Cuba created dollar stores and even dollar-denominated, interest-earning savings accounts. Early in the crisis, the black-market exchange rate reached 130 pesos to the dollar. Today, however, it hovers at a more realistic 20 to one.

At the now-ubiquitous dollar stores, any-

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one with American cash, known as *fula* on the streets, can buy goods unavailable for pesos. At first, people spent their precious dollars on the basics – cooking oil, soap, toothpaste, shoes, deodorant, etc. Today, the billion-dollar demand has spawned a domestic industry of Cuban products available only for dollars. In addition to the stuff once only imported, Cuba now produces its own processed juices, canned vegetables, detergent and soap – but only in exchange for greenbacks.

Retail consumers make up about half of the dollar demand. In the other half of the market, comprising what one Cuban economist calls "exports within borders," local businesses purchase inputs from local producers, also in dollars.

At the same time, Cuba legalized self-employment in some 150 occupations including car and appliance repair, plumbing, painting, shoemaking and hair styling, while applying a progressive tax system to all non-state incomes. By 1996, over 200,000 people had registered their businesses. Artisan and crafts markets popped up alongside the farmers' markets. Services previously limited to the underground economy began to surface and prosper. But since then, a combination of heavy taxation and rigid regulation pushed the number of private entrepreneurs below 150,000. The most visible victims: dollar-only family-owned restaurants.

Other reform efforts have been problematic. The idea of a universal progressive tax system, briefly floated, proved wildly unpopular and was soon tabled. A draft bill to legalize small businesses for the first time since Cuba's own "great leap forward" to socialism in 1968 was circulated, but never enacted. True believers apparently feared the independent power of a shopkeeper class, both in the market and in politics.

Agriculture

By 1994, Cuba had converted approximately 75 percent of its state-run farms to cooperatives, which today control almost half of all cultivated land. Co-op members hold title to their land in perpetuity, and are required to sell three-quarters of their crop to the state at below-market prices. The remaining yields, though, are sold at market rates and profits go back into the cooperatives.

While far from enacting a China-style agricultural reform, the state is loosening controls on production and distribution. Last year saw the elimination of the cumbersome

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process of *acopio*, or collection, that had often resulted in horror stories of food rotting before it reached the market. Roadside stands and private distribution networks are emerging. So, too, is organic farming for both the internal and export market.

In 1994, Cuba reopened farmers' markets, where private farmers and cooperatives sell a variety of fruits, vegetables, meat, poultry and grains at prices far above state-rationed family allotments. This opening was more a political than an economic decision – one designed to avert a food crisis that could have shaken the regime's legitimacy. But prices in the farmers' markets have steadily decreased so that ever-larger numbers of Cubans can occasionally patronize them.

Beyond these steps, however, Cuban agriculture remains mired in the island's rich soils. King Sugar, Cuba's number one source

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of foreign currency for more than a century, has experienced severe declines in annual production and revenue. Obsolete machinery, adverse weather conditions and a declining labor supply contributed to a collapse of sugar yields from 7 tons in 1990 to 3.7 tons in 1999. Also, the rising costs of fuel and fertilizer, imported on credit, have driven up the cost of sugar production.

Shutting down most of the island's 125 sugar mills and converting the land to foodstuff production might seem the obvious solution. However, with 400,000 workers employed in sugar and a majority of Cuban municipalities dependent on the sweetener as a major source of revenue, that step is apparently too painful for Havana to contemplate. Instead, the regime has chosen to muddle through. Home and community gardens are becoming commonplace. Barter arrangements for sugar still provide some food, such as wheat from France and powdered milk from New Zealand.

Oil, Sugar and Debt

Over the last eight years, Cuba has quadrupled domestic output of sulfur-heavy oil, producing nearly 50,000 barrels per year. Plans are underway to modernize its 50-year-old electricity system with foreign capital, work that will revitalize 70 percent of the island's electricity capacity. Yet, in spite of Cubans' obvious relief at the end of the rolling blackouts used to conserve fuel, the island is not quite out of the dark.

That's because the combination of high imported oil prices and low sugar export prices are costing the island dearly. In the beginning of 1998, Cuba sold sugar for approximately 8 cents per pound. In 1999, sugar fell to a nickel a pound in the world market, making only a modest comeback to

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6.1 cents early this year. At the same time, world oil prices nearly tripled between January 1999 and March 2000, costing the little economy an extra $38 million dollars in just the first two months of this year.

Commercial debt casts another cloud over Cuba's economic recovery. During the global debt crisis of the 1980s, the ever-defiant Fidel halted all payments on foreign debt. In the wake of this default, Cuba must pay 15 to 20 percent interest on short-term loans for the sugar trade. But a chastened Castro is now attempting to recover his international credit standing: Havana recently negotiated a deal with Japan to restructure and begin paying off its bilateral debt of $125 million.

Tourism

Having eschewed radical agricultural reform, Cuba has poured resources into a dramatic expansion of its long-dormant tourism industry. Once legendary for sex, drugs and gambling – all seen as the scourges of capitalism and excised from Cuban society after the Revolution – tourism is again the island's second largest source of foreign exchange. In 1999, nearly 1.6 million tourists visited the island, completing a decade during which the number of visitors increased at an average annual rate of 20 percent. This year, Cuba expects to receive two million visitors and to gross $2 billion on the tourist trade. It is rapidly expanding capacity, not only at more well-known resorts like Varadero Beach – home to the old duPont family estate – but also on the remote and pristine barrier islands that dot the extensive coastline.

Though tourism has helped to stabilize the economy, it can't productively employ much of Cuba's 700,000-strong technically and professionally trained work force. And the lack of opportunity for these elite workers has had a

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corrosive effect on Cuban society. Doctors and engineers have been known to leave their professions for jobs as bellhops and maids in the dollar economy, earning more every few days than they would otherwise bring home in a month. Indeed, tourism has exposed parts of this rather conservative culture to the seedier side of prerevolutionary days, with young women and men becoming prostitutes to the horror of their elders, and the beginnings of a domestic drug-use problem.

Foreign Investment

Since 1992, foreign investment has increased four-fold, and Cuba currently boasts of 370 foreign-investment deals in the works – largely in tourism, minerals, citrus, biotechnology, tobacco, real estate and energy. A 1995 joint venture law that permits, at least in theory, 100 percent repatriation of profits has opened the door to new capital, particularly in the energy sector. While Americans are barred from investing in Cuba by American law, investors based in Canada, Mexico, Spain, the United Kingdom, Venezuela and Brazil have no such restrictions. Estimates of total foreign investment in Cuba from 1992 to 1998 range from $1 billion to the official government figure of $2 billion.

One serious obstacle to larger scale investment may be Cuban labor laws, which exact taxes as high as 90 percent. Under current rules, foreign companies must contract workers through a state agency. The state is paid about $400 per month per employee, but pays workers in pesos salaries that are drastically less than dollar equivalents.

Joint ventures find many ways to get around the requirement. Most pay workers dollar bonuses and monthly *jabas* – baskets of basic supplies – well beyond their peso salaries. At the Sherritt mines in Oriente province, for example, workers earn production-based dollar bonuses paid by direct deposit into bank accounts that are accessible through ATMs.

Cuban trade unions, still an instrument of the state and Party, are known to drive a hard bargain in contract negotiations. Indeed, there is a prospect that unions will use their

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leverage over foreign investment to become more autonomous.

Other adaptations to the Special Period include the elimination of several state ministries, the decentralization of the management of foreign trade, the development of a commercial banking system, and a push to train enterprise managers through business schools in Europe and Canada. More state enterprises – including many run by the military – are now required to meet accounting, cost control and production standards on the pain of losing their government subsidies.

This new business-like attitude has paid off in a reduction of the government budget deficit from 34 percent of GDP in 1993 to just

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3 percent in 1999. But while deficits have decreased, Cuba's trade deficit continues to grow. Moreover, strong growth rates reported over the last few years do not take account of the rapid aging of Cuba's capital stock – this, after all, is the land of the 1953 Chevrolet taxi.

WHY THE HODGE-PODGE APPROACH?

Between 1898 and 1959, Cuba grew utterly dependent upon the United States for trade and investment. Though they squirmed under the shadow of American political hegemony, Cubans made many of our popular- and mass-culture icons their own. After the revolution, economic dependence switched to the Soviet Union, accompanied by all the usual ideological window dressing.

Many of Cuba's early radical reformers – U.S.-educated, anti-communist, New Deal Democrat types – tolerated those three decades as a necessary price for throwing off the shackles of imperialism. And they fully

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embraced the egalitarian ethos and international activism of the new society. Today, with neither the Americans nor the Soviets pulling the strings, Cuba's governing and intellectual elite is breathing a collective sigh of relief and relishing the opportunity to develop in its own "third" way.

The growth of the dollar economy, like tourism, both nourishes and undercuts these aspirations. Individual access to dollars, whether through remittances, the black market, the legal private sector or from a job in a joint venture, has pulled Cuba out of a truly dire economic crisis. In 1994, no more than 25 to 30 percent of the population could hope to pocket hard currency. Today, more than twice that number participate in one way or another in the Cuban-style new economy.

On the other hand, Cubans' revolutionary sensibilities are under attack. Before 1991, the highest-paid minister or world-class heart surgeon earned no more than four times as much as the lowest-paid construction worker. Today, the yawning gap between the poor and the dollar-minded middle-class is a fact of economic life.

The inequality associated with this "dual" economy has produced deep tensions in a society that has internalized the Cuban revolution's embrace of egalitarian ideology in word and deed. Who travels abroad, drives a car, goes to a disco or eats pork – as opposed to processed soy – is now more a function of who has access to dollars than who has talent, training or ideological commitment. Cubans must waste hours each day on dispiriting tasks – hustling to find spare parts for dying Soviet-era Lada cars, standing in lines for basic foodstuffs, waiting for overcrowded public transportation, or searching from pharmacy to pharmacy for prescription medications.

Fidel Castro's own political calculations are not the only obstacle to a more rapid transformation. Droves of Cubans, from the most conservative Communist to the most independent-minded intellectual, are still debating whether Cuba can hew to a hybrid path, or whether the country must finally learn to love capitalism.

Of course, it has become a cliché to explain Cuba's defiance by noting that Cuba's 20th century history of thwarted nationhood has made the population uniquely independent – as if Croatians, Poles, Vietnamese and Nicaraguans somehow cared less about national identity. But among Cuba's political elite, which now spans two generations, this consciousness does indeed function as a sort of safety catch that so far has prevented yet another great leap forward.

There is no better example of the consequences of moving too quickly than Cuba's former patron, Russia. Many in Cuba believe that following a Russian path might open the island to rapid social deterioration and exposure to the darkest aspects of capitalism, from overt corruption to organized crime, unemployment and hyperinflation. Moreover, this nightmare scenario would unfold without a state apparatus to cushion the fall for those who would bear the most painful shock of a rapid transition to capitalism – the very people whose well being provides the basis for the regime's legitimacy.

AMERICAN POLICY AND THE POST-HELMS-BURTON ERA

However much legitimacy Castro has lost over the last 10 years has been amply compensated for by American policy, which has a remarkable capacity to reinvigorate Cuban nationalism at critical moments. After three decades of economic sanctions maintained largely at the will of the White House, Congress took it upon itself to tighten the

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embargo – and thereby draw U.S. allies into the conflict.

The 1992 Cuban Democracy Act (CDA) bans trade with the island by third-country U.S. subsidiaries. In the first year the law was in force, Cuban imports from American companies – mainly of food and medicine – dropped by some $700 million. The law also raised Cuba's costs of doing business with a shipping ban that prevents vessels heading in or out of Cuba from docking in American ports. Canada and the United Kingdom passed nullifying legislation in response. And since 1992, it has become an annual ritual for the United Nations General Assembly to pass a resolution condemning the American embargo.

But no American initiative against Castro is without irony. While tightening sanctions on the one hand, the CDA also legislated an opening in telecommunications markets. Today, most of the top American telcos provide direct phone service between the two countries, bringing several hundred million dollars in revenue to the regime. The law also opened the door for increased non-tourist travel by Americans to Cuba, known as "people-to-people exchanges" in the current policy vernacular.

Then in 1996, Cuban MiGs shot down two private American planes and killed their four passengers. Until the incident, the Clinton administration had indicated it would oppose further embargo-tightening legislation. But the threat of a veto evaporated after the attack, and President Clinton signed the Cuban Liberty and Democratic Solidarity Act – known as the Helms-Burton Law for its sponsors, Senator Jesse Helms and Representative Dan Burton.

The law represents an unprecedented encroachment on the executive's powers to conduct foreign policy, as well as a serious deterrent to investment in Cuba. But it is the extraterritorial elements of the law that have drawn the United States into a simmering trade row with Europe.

Helms-Burton, Titles III and IV

Title III of the law gives former Cuban citizens whose property was nationalized the right to file suit in American courts against individuals and companies currently using the confiscated property. Creating a right of action for this class of claimants broke new ground in foreign claims settlement law.

Before Helms-Burton, some 6,000 American companies and American residents had already registered claims with the Justice Department's Foreign Claims Settlement Commission – claims valued today at $6 billion including interest. Fearing clogged courts and demands for equity from exile communities in other countries, the White House negotiated the authority to deny rights under Title III. Though no litigation has moved forward to date, the threat of a lawsuit has prompted at least one company, the Italian telephone utility, to negotiate an out-of-court settlement.

It is highly unlikely that the present Cuban government will ever consider compensating former Cuban citizens, many of whom, like the affected American companies, have already received tax deductions and insurance payments to compensate for their losses. Cuba asserts that its 1960s program of nationalizing utilities, refineries, urban real estate, farm land, factories – and later, small businesses – was legal under both Cuban and international law. Indeed, Cuba negotiated lump-sum settlements with Spain, France, Switzerland and Canada for compensation to those countries' nationals. It also offered 20-year bonds at 4.5 percent interest to American

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companies whose property was taken, and otherwise compensated Cuban citizens who stayed in the country.

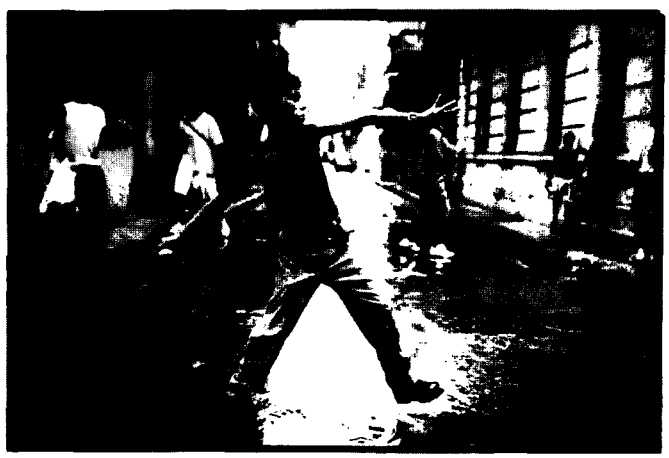
The regime might, however, consider a compensation deal for the registered claimants in return for American trade and investment concessions. As post-Sandinista Nicaragua suggests, the issue won't go away even after Fidel. Cuban planners today would do well to consider compensation, if only to eliminate what may prove a nasty obstacle to foreign investment tomorrow.

Title IV of Helms-Burton threatens visa denials to officers (and their families) of companies investing in confiscated Cuban properties. From the perspective of some congressional hardliners, lobbyists and lawyers, the State Department has done precious little to enforce this part of the law. To date, only a few companies have been sanctioned, including the Canadian mineral company Sherritt, and an Israeli company with a joint venture in citrus fruit. The State Department has hinted that it will sanction the Spanish Sol Melía group, but has also signaled that it would prefer a private settlement between the company and the family that claims title to the land lying under some of the hotel chain's five-star Cuban operations. If the United States applies the Title IV sanction, Spain has threatened to bring a complaint to the World Trade Organization's dispute settlement panel, where the United States would surely lose.

The United States and Europe negotiated an "understanding" in May of 1998 on Helms-Burton in order to avert both a trade war and significant damage to American credibility. The EU committed to certain "disciplines" to dissuade companies from investing in confiscated property listed on a still nonexistent international registry, in exchange for the Clinton administration seeking a waiver of Title IV from Congress. Subsequent negotiations between Congress and the State Department are at a stalemate. With Title III now waived on eight consecutive occasions and Title IV neither enforced nor waived, we have apparently entered a post-Helms-Burton era and, therefore, a period of slow erosion of the embargo.

PLAY BALL

President Clinton's policies over the last two years have laid the groundwork for this erosion. Without lifting the travel ban, the administration has deregulated travel for many Americans, made it somewhat easier for the pharmaceutical industry to sell its wares, and raised the possibility of agricultural exports to Cuba – a market with projected initial sales in the range of $500 million to $1 billion.



Almost 200,000 Americans went to Cuba in 1999 – many returning with calls for a change in policy. The Baltimore Orioles played the Cuban national baseball team in both Havana and Baltimore. Some 130 universities now have the green light for student exchanges. The pharmaceutical industry held

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the first American trade show in Havana since 1960. Republicans and Democrats from Congress, and local government officials from around the country, went to Cuba, and returned calling for Washington and Havana to open up cooperation in travel, trade, culture, counter-narcotics initiatives, public health and environmental-protection policies.

Congress responded to these shifting currents last year, with a bipartisan majority in the Senate supporting an end to sanctions on agricultural sales to Cuba, and nearly half that chamber voting to lift the travel ban. And this year, bowing to pressure from North Carolina farming constituencies, Chairman Helms

allowed his Senate Foreign Relations Committee to vote in favor of allowing American food and drug companies to sell their wares directly to the Cuban government. That's a step beyond the administration's limited and impractical move last year to allow sales only to non-governmental entities.

Still, the Clinton administration is by no means committed to lifting the embargo, or even portions of it. Rather, its strategy has been to create new domestic constituencies for a change in policy, by giving the American people some basic tools that will permit public opinion to drive Congress to change the law.

WAGGING THE DOG

Without a congressional mandate, it is hard to imagine that any U.S. president, Republican or Democrat, would exercise leadership to advance a more dramatic, practical or effective bilateral policy agenda. The reason? The widely held belief that winning campaign contributions and votes from Cuban-Americans in Florida and New Jersey is more rewarding than developing a policy that reflects United States interests after the end of the cold war.

While the perception of exiled Cuban political and financial power continues to weigh on U.S. policy – Al Gore's split with the administration over Elián González is but the most recent example – it has been several years since Cuban-Americans spoke with a consistent voice. They have voted with their pocketbooks and feet, sending remittances to family members and traveling to the island well in excess of legal limits, even as they denounced any softening of Washington's policy toward Castro.

Cuba's own laws, which explicitly permit the Cuban diaspora to invest on the island, have drawn a bit of under-the-table capital from Cuban-Americans, young and old. And

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the capital also flows south to north, with owners of family restaurants sending remittances or interest payments back to relatives and others in Miami. Just as Cuban exiles helped finance the transition in Cuba 40 years ago, it's a safe bet that, as the embargo further recedes, Cuban-Americans will drive Cuba's economic recovery.

Over Chinese food in Old Havana a couple of years ago, a retired Cuban intelligence official told me that the heart of Cuba's policy toward the United States is to keep us "not too close, and not too far." Though officials today might argue otherwise, the relatively slow pace of change in U.S. policy suits a similarly slow pace of change in Cuba. Indeed, there is an unspoken and unintentional complicity at work between the two governments, each of which must contend with domestic constituencies that resist more accelerated transformations. Of course, Cuba's political elite knows it is in Cuba's long-term interest to reach détente with the colossus of the north. And, to a lesser extent, it is in Cuba's short-term interest as well: If Congress were to loosen restrictions on trade, Cuba would obviously save some money.

But, for the time being, Cuba holds a veto over what openings do exist. Despite the explicit subversive intent behind promoting contact, Cuba now welcomes Cuban-Americans, students, artists, businesspeople, movie stars, musicians, journalists, academics, elected officials, and anyone else who will leave behind their dollars and might return home with a fresh view of the island.

At their current levels, travel and remittances don't sow dissent in Cuba. Indeed, these lifelines help stabilize the island as it slowly joins the world economy. And Cuba can hardly keep up with the pace of the opening in travel. A more accelerated *apertura* would probably have a destabilizing impact on the island, a prospect that (for different reasons) neither Cuban nor American national security planners are likely to welcome.

BACK TO THE BEGINNING – PROSPECTS FOR ORDERLY TRANSITION

In April 1959, a 33-year-old Prime Minister Fidel Castro came to Washington with many of the revolution's braintrust. On the plane, he instructed them not to accept offers of U.S. assistance, and not to entertain the prospect of aid from international financial institutions. The reasons for his nose-thumbing directive persist. When and if Cuba sits down for formal talks – it has already done so informally – to discuss the prospect of World Bank, IDB or IMF loans, whoever represents the island will pick and choose only from those offers that allow Cuba to maintain some control in shaping development.

To the naked American eye, there has been very little political change in Cuba to accompany the economic awakening. And yet a new generation – call them "post-communist" Cubans – now operates at every level of the Cuban economy and state. Cuban music, dance, theater, literature, film and fine art are sophisticated, vividly expressive and highly marketable. Cubans living on the island, whether devout fidelistas or long-time dissidents, and world leaders such as Pope John Paul II, King Juan Carlos of Spain, and a long line of heads of state, have implored Castro to preside over a democratic opening.

One can only speculate that his resistance has as much to do with his vision that loosening the political reins will bring chaos to Cuba as it does to with his own self-interest. For joining the political mainstream would force him to finally abandon the now well-honed exceptionalism that has become the hallmark of modern Cuba. M

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The Peculiar Economics of Global Warming

By Robert Mendelsohn

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In recent decades negotiators have managed to hammer out mind-bogglingly complex treaties affecting trade liberalization, arms control – even the protection of endangered species. Why, then, is it proving so difficult to curb the "greenhouse" emissions that are warming the planet?

The Kyoto Protocol on Climate Change in 1997 did take a stab at the problem, setting limits on emissions by the industrialized countries and creating some incentives for developing countries to control theirs. Certainly, there's no lack of enthusiasm for the protocol among activists who originally pushed the global warming issue to the top of the policy agenda. Indeed, to many environmentalists, global warming is *the* issue – the post-cold war equivalent of the threat of nuclear winter.

Look more closely, though, and it's plain that big trouble lies ahead. Cost was the primary concern of the negotiators at Kyoto. And even with the relatively modest emissions targets chosen then, it dawned on many participating countries that the bill could be very large. Further, it became all too clear that the burdens would not be uniform from one country to the next. Controlling greenhouse gases – notably carbon dioxide – would fall disproportionately on countries that rely on coal for energy, since coal releases more carbon dioxide per unit of energy than oil or natural gas. That explains, for instance, why Australia, a major producer and consumer of coal, fought for less onerous reductions.

The equity issues go beyond whose ox is gored, however. Is it reasonable, for example, to ask Chad to spend the same amount (per person? per unit of output?) as the United States? Who should decide what is fair?

Then there are the wheels within these wheels, affecting both the magnitude of the bill for stopping global warming and the distribution of the economic burden. The flexibility to "trade" emissions rights is widely understood to reduce the costs of meeting emissions targets – perhaps by as much as 90 percent. Say it costs country A about $500 to reduce carbon emissions by a ton, but it only costs country B about $100 to manage the same feat. Then it pays them to pool their rights and to shift emissions from country A in return for a payment of anywhere from $100 to $500 per ton to country B.

But who gets to trade with whom? When the protocol was debated in 1997, the European Union lobbied aggressively to be treated as a bloc so the member countries could trade freely with each other. This would make it possible for most of the actual reduction to take place in regions that still had plenty of low-lying fruit to harvest (think eastern Germany, with its ancient coal-fired

LEFT: BRUCE FORSTER/STONE; RIGHT: THE SPECIAL PHOTOGRAPHERS CO./PHOTONICA

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power plants). Yet it would also make it possible for the Europeans to say with straight faces that they could comply without "exporting pollution" – an important political advantage on a continent with powerful Green parties that disapprove of emissions trading in any form.

On the other hand, the United States lobbied for everyone's right to trade allowances with everyone else. This would have minimized Washington's costs of compliance, but would also have increased the global demand for tradable emissions allowances. That, in turn, would have both raised the price the Europeans would have been forced to pay for allowances and – more importantly – strip the European Union of its no-pollution-export fig leaf.

For their part, low-income countries balked at having to pay anything to slow global warming. Indeed, some low-income countries would not agree to control their own emissions even if the cost was fully offset by payments from others, arguing that they had a "right" to catch up with the industrialized world in the pollution department.

WHAT ABOUT THE BENEFITS?

While cost issues dominated the agenda at Kyoto, potential benefits were hardly mentioned. Countries simply assumed that the benefits from slowing global warming would be widespread, and would justify the investments made by each treaty signatory.

Hence, except for the handful of island nations that view global warming – and the subsequent rise in the sea level – as a threat to their very existence, nobody seemed particularly concerned about the differential impact of climate change. Yet the scientific evidence amassed over the last five years raises serious issues about these benefits:

- The estimated magnitude of the benefits from controlling greenhouse gases has fallen. While less warming is still thought to be preferable to more, there is now a lot more reason to doubt that the most expensive

WILLIAM MANNING/THE STOCK MARKET

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control programs – the ones aimed at the high-hanging fruit – are worth the expense.

- The distribution of the potential benefits from containing emissions is clearly not uniform among countries, or even among regions within large countries. Countries closest to the poles – notably Russia and Canada – and even temperate countries such as the United States and Western European nations are now expected to benefit from warming. Only the tropical countries are likely to suffer substantially.

oceans – forecasts increases of just 1.5 degrees to 4.5 degrees by 2100.

Second, the original studies predicted that climate change would heavily damage regional ecosystems. Whether the ecosystems were crops, forests or grassland, productivity would fall and some systems would actually "collapse." But while these studies correctly assumed that temperature change would alter the ecology, they failed to note that the consequences for economic productivity would not always be negative. Indeed, on balance, global

Countries closest to the poles – notably Russia and Canada – and even temperate countries such as the United States are now expected to benefit from warming.

AKE E:SON LINDMAN/PHOTONICA

Why have damage estimates fallen? Early studies vetted by the blue-ribbon Intergovernmental Panel on Climate Change forecast that by the year 2060 unchecked climate change would reduce global economic output by 1 percent to 3 percent. This level of damage justified a modest investment in containing greenhouse gases today and much larger investments later on.

Yet the scientific evidence amassed over the last five years raises serious questions about the benefits of slowing emissions. First, the original impact studies were based on estimates that temperatures would rise 4 degrees to 6 degrees centigrade by 2060. The most recent IPCC climate report – one based on new data plugged into more sophisticated models of temperature transmission in the

output is likely to increase as carbon dioxide builds up, and many of the ecosystems that cannot tolerate climate change will probably be replaced by new ecosystems that better serve the economic interests of the human population.

Earlier predictions forecast ecological catastrophes that would transform parts of the earth into moonscapes. The new predictions envision an expansion of tropical and boreal forest toward the two poles. Of course, any global change of this magnitude would involve local changes that are both good and bad; it is hard to assay the overall impact of such a broad change with models that rely on the limited data now available. The critical point, though, is that the movement of biomes across space is not necessarily threaten-

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ing to mankind or even to nature.

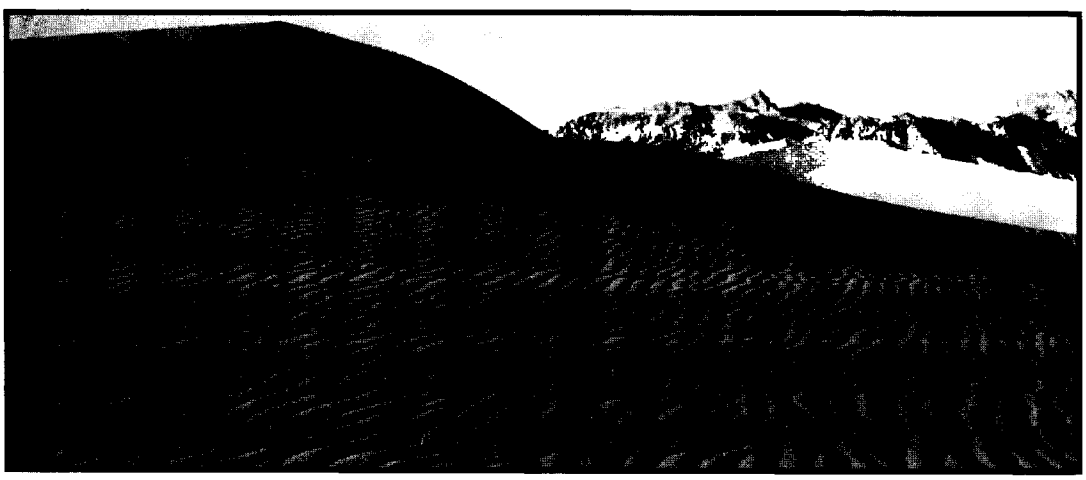
Third, many of the earlier impact assessments focused solely on the damages from warming. Thus the energy studies concentrated on the increased electricity that would be needed for cooling. The agriculture studies concentrated on temperate-zone crops that would fare badly in warmer climates. The recreational studies concentrated on skiing that would be damaged by shorter seasons. The health studies looked at the deaths of elderly people caught in heat waves.

Conspicuously missing from these analyses were the offsetting benefits. The energy studies ignored the savings in oil and natural gas no longer needed for heating. The agricultural studies failed to include heat-loving plants that would do exceptionally well in a warmer world. The recreational studies overlooked the prospects for summer recreation – say, swimming off the beaches of Oregon or fishing in northern lakes. The health studies overlooked the fact that the elderly live often longer in warm places.

What's more, these estimated benefits have turned out to be surprisingly large. Indeed, if they are included, the net economic impact of global warming turns positive.

Fourth, the early studies generally overlooked the potential for economic adaptation. Many of them simply assumed that climate change would happen overnight, when in fact the change would unfold gradually over the century. And over a century, farmers would be able to switch crops and to move heat-sensitive crops poleward.

This is not Pollyanna talking. Over the last 150 years, equivalent crop migrations have taken place relatively effortlessly. For example, farmers shifted the American grain belt hundreds of miles westward in response to changing transportation costs. Farmers can also adapt by changing planting dates, harvest times, tilling strategies and plant varieties. Biotechnology can help, too, by modifying plants for temperature and rainfall. This sort of adaptation would not only reduce crop damage in places that get too warm, but also increase net revenues in places that are currently too cool.



BILL ROSS/CORBIS

FIGHT – OR ADAPT

Similarly, it is clear that adaptation strategies in every other market sector affected by climate-linked change would dramatically

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reduce damages. For example, early estimates of the costs of a rise in the sea level assumed that it would be necessary to build sea walls around all vulnerable coasts immediately. But simply erecting the sea walls gradually over the next century as they are needed would reduce the present value of the costs of this response by a factor of 10.

By the same token, the early models assumed that climate change would wreak havoc on forests by destroying the trees that could not adapt. However, a careful model of the way forests would actually change in the face of climatic stress suggests that many of the trees could be harvested and replaced as part of normal forestry operations. In fact, a gradual warming would allow more productive forests to replace existing stands and actually increase timber production.

Early analyses of global warming predicted there would not be enough water to supply growing metropolitan areas in semi-arid regions. But more recent studies recognize that catastrophe could be avoided merely by taking water away from lower-value uses – a process facilitated by pricing water according to its "opportunity cost." Reductions in runoff in semi-arid places would presumably still lead to ancillary environmental damage – but hardly the spread of deserts envisioned by the first generation of global warming studies.

Hence damage estimates look very different in light of both new climate evidence and a more sophisticated conception of adaptations. Developed countries including the United States, Canada, Japan and Western Europe are all in cool latitudes and so are likely to benefit from global warming over the next century. There will still be damage from warming in some sectors in these countries, but the benefits are likely to offset them.

First-generation studies predicted annual damages of between $56 billion and $63 billion in Europe; between $60 billion and $140 billion in the United States, and between $56 billion and $59 billion in the other rich temperate-zone countries. These damages amount to between 1.3 percent and 1.6 percent of projected income.

The new estimates, by contrast, show small net gains (perhaps 0.1 percent of output) for the developed world. Hence damage estimates that once were a good reason for rich countries to press for a global warming treaty have become net-benefit estimates that actually create incentives for delay.

The IPCC's old climate-change estimates for the former Soviet bloc countries were more mixed, with numbers ranging from an $8 billion annual benefit to damages in the

Many of the ecosystems that cannot tolerate climate change will probably be replaced by new ecosystems that better serve the economic interests of the human population.

VOLLERS DESIGN/PHOTONICA

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$18 billion range. The old estimates for China were bleaker, predicting net damages of about $17 billion.

Note, however, that most of the transition economies are in cool latitudes and thus have a good shot at winning the global-warming lottery. Indeed, the former Soviet bloc countries are expected to gain between $86 billion and $228 billion annually. Even China, which straddles warm and cool latitudes, would gain an expected $14 billion to $42 billion from warming.

Of course, not every country would be better off if the atmosphere warmed. In particular, countries that are currently quite warm are vulnerable, but very little climate impact research has been undertaken in tropical countries. There is consequently a great deal of uncertainty about the potential impact of warming in the countries where much of the world's population is situated.

Agriculture will likely be harmed in low latitudes – or at least the growth of farm productivity will be slowed – while agriculture expands in the higher latitudes. Tropical countries also face the prospect of coastal flooding, increased energy demand and rainfall instability.

The IPCC predicted annual damages in the tropics of between $54 billion and $116 billion – large numbers in view of the relatively low output of the regions. Newer research estimates suggest the tropical impacts are less certain, but not necessarily smaller. The net impact is likely to run between a benefit of $138 billion and a loss of $176 billion, depending on how easily agriculture adapts. Thus, of all the regions in the world, the countries of the tropics have the greatest direct incentive to have emissions of greenhouse gases reduced.

WILL THE BLACK HATS WIN?

Note the irony: countries emitting the most carbon dioxide these days are likely to benefit from warming, while countries that have not yet emitted their "fair" share are likely to be victims. What's more, adding the probable global damages from low-latitude countries to the benefits in high-latitude countries yields a small number of ambiguous sign for the entire globe. Hence, our growing knowledge about the process of global warming is likely to complicate negotiations over how much to limit emissions and how to pay for the controls.

Damage estimates that once were a reason for rich countries to press for a treaty have become benefit estimates that actually create incentives for delay.

First, there is little collective economic incentive to spend heavily to slow warming. It is now only a possibility – and not even a likely one – that warming will cause significant net damage in the coming century. By the same token, the probability that damages will be very large has shrunk.

Second, it is becoming far more difficult to build a winning political coalition in favor of emissions abatement. The countries that signed the Kyoto agreement no longer have compelling national interests at stake in slowing warming. Far from it: for the next centu-

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ry, warming will probably help the countries that emit most of the greenhouse gases.

Indeed, once reality sets in, the developed countries may be quite content to argue about treaty details indefinitely before implementing a binding agreement. In contrast, it is in the interest of the developing countries to create binding emissions reductions immediately. However, these countries effectively boycotted the Kyoto agreement, and influencing the process now won't be easy.

Besides, it is one thing for developing countries to acknowledge that greenhouse gases are a threat to their interests and quite another to ask their citizens to accept lower rates of economic growth today in order to spare their grandchildren the uncertain consequences of global warming. The outcome may well be one of little collective action.

Thus, it appears the world is about to undertake a massive greenhouse gas experiment. Carbon dioxide levels will likely continue to increase, testing the resilience of the planet's biosphere.

COMFORTING FORECASTS

Readers worried that global disaster looms can take some comfort from the latest impact forecasts. Although it is impossible to guarantee that good things will come to pass over the next century, the forecasts are decidedly cheerier than they were five years ago. Climate science now forecasts much slower rates of warming. The predicted consequences of doing nothing to control greenhouse gases today compares favorably to what we used to predict would happen if the world adopted fairly ambitious controls.

The ecological models predict that greenhouse gases (in particular, carbon dioxide) will bring a greener world. Carbon dioxide is expected to fertilize plants and expand the portion of the globe where trees can grow. If the forest products industry continues to invest in tree farms, there may even be room for increasing the amount of untouched forests in the world. This is hardly the moonscape that was once expected.

Agronomists now predict that crop productivity will rise, lessening the likelihood of world hunger and probably reducing food prices. Coastal flooding and more severe storms will exact some costs, but these effects are expected to be smaller than the benefits expected in agriculture.

JIM MCDONALD/CORBIS

Global warming may, in fact, turn out to be a lot like Y2K. We were very anxious before it happened. However, with a reasonable amount of planning and action, everything turned out all right in the end.

The idea that global warming is not an immediate threat to either civilization or nature will surely upset some. For example, many activists were hoping that fighting global warming would be the wedge for a much broader campaign to control the economy and promote nature. The science, however, suggests that global warming is a slow and gradual process, and that we have plenty of time to make thoughtful and prudent responses. Expensive draconian responses are simply not required. M

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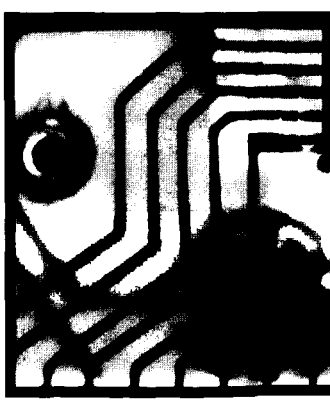
Network Economics & Public Policy

a primer

By Lawrence J. White

Networks. They're all around us. They encompass the Old Economy – roads, rail, pipelines, the dumb old telephone system – and the New Economy – computers and software, the Internet, the smart new telephone system.

They are also a continuing source of policy headaches. But this is nothing new: turnpikes, canals and the banking system were all political flashpoints for our young Republic. By the late-19th and early-20th centuries, attention had turned to railroads and the nascent telephone system. The regulation of telephone, rail, trucking and airline networks have been prominent issues for the last three decades. And, oh yes, there's the small matter of Microsoft, the largest software company in the world and the target of the high-



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est profile antitrust lawsuit in decades.

But what exactly are networks, and why do they receive so much attention? Herewith, a cheat sheet.

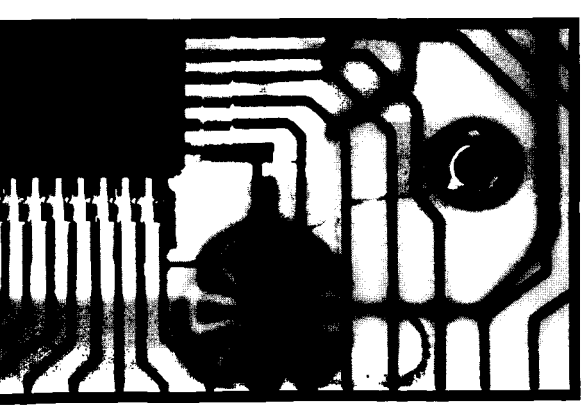
SO, WHAT IS A NETWORK, ANYWAY?

This is one of those questions to which experts are inclined to answer, "If you don't know already, it's too complicated to explain." Let me instead offer an illustration.

Figure 1 shows a "star" network. Points A, B, C, etc., and point S are the nodes; the lines between them are the links. Simple, yes, but not a bad schematic of a telephone system. Nodes A through F represent telephone network users, while links are the wires that connect them and node S is the central switch that routes the calls. Figure 1 is also a decent approximation of the network that characterizes the Old Economy Postal Service and the New Economy FedEx. And it is a good representation of the hub-and-spoke network of a post-deregulation airline – think of O'Hare or Atlanta as node S.

Figure 1 illustrates some crucial features. First, for a network to be useful, the users must be effectively connected by the links. In network-speak, the links and users must be compatible. Second, in this style of network, the central node is crucial, since all interactions must go through it. In a telephone system, this node would be the central facility that switches calls among the users. Third, networks often exhibit positive "externalities" – that is, the value of a network increases when an additional user joins; equivalently, the value of the whole is greater than the sum of its parts.

KELLY HARRIGER-WESTLIGHT/CORBIS



Such externalities have important implications. The mantra of microeconomics – that in an efficient ordering of things, market prices should equal the marginal cost of production – doesn't necessarily hold. After all, the value added by putting one more line on the phone network exceeds the value accruing to the new user.

Note, too, that markets with network characteristics may be unstable and subject to tipping: even modest advantages for one competing network may snowball and allow it to dominate rivals – a winner-take-all effect. Being first in a market may provide this modest advantage, so there may be considerable jockeying to obtain such a position.

Lest one assume that bigger is always better, note that extra network users can have negative consequences for other members – for example, the extra user may add to congestion delays (highways) or static (the radio spectrum), degrading the experiences of the others. Still, it appears that many networks have the ability to expand crucial links or nodes at little cost, implying that the advantages of size overshadow the disadvantages.

NOW FOR SOME JARGON...

To add a little complication (and a lot of sophistication) to the network example, consider Figure 2, with its two star networks linked by a trunk. This could represent:

- Two local telephone networks with a long-distance connection.
- A pair of railroad marshaling and switching yards with a long-haul line between them.

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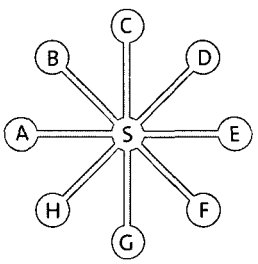
- An electricity network, with the left-hand star representing a collection of power-generation units, the right-hand star representing electricity users, and high-voltage transmission lines linking them.
- A credit card network, with card-accepting merchants on the left, cardholders on the right, and a credit card system between.

FIGURE 1
A STAR NETWORK



Although all these networks can be represented in the abstract by Figure 2, one interesting difference separates the first two from the others. For the telephone and railroad networks, a peripheral node (user) anywhere in the figure is potentially interested in communicating with any other node. Thus, the positive network externalities from additional users of the network are direct. These are *two-way networks.*

By contrast, for the electricity and credit card networks, the peripheral nodes on one side of the diagram are only interested in transactions with nodes on the other side of the diagram. The presence of an added electricity (or credit card) user provides no direct benefit for other users. However, if there are economies of scale in this arrangement for delivering electricity, then more users will mean lower per-unit costs for all users. For credit cards, a similar effect will operate: with more cardholders, more merchants will want to join the network – which widens the variety of outlets at which holders can use their cards. But the beneficial effects in both instances are indirect, operating through economies of scale in links and nodes, rather than through direct externalities. These are *one-way networks.*

Finally, consider networks of software applications for personal computers and their users. There are no physical or electrical links between users and software firms. But there are links among the PCs' operating systems, which run the software. These arrangements have come to be described as virtual networks, with characteristics quite similar to those of one-way networks. An extra user may provide little direct benefit to other users. But an extra user will mean a larger market for software developers, which will encourage more software variety, which in turn encourages more users.

In the framework of Figure 2, the left-hand nodes are the applications-software developers of a virtual network, the right-hand nodes are the users, and a PC operating system is the link between the two clusters. Note that the software, operating system and users' computers all have to be compatible. This virtual network concept has wide applicability to many software/hardware situations such as videotapes and VCRs, recorded music (tapes and CDs) and their hardware.

SO, WHAT'S THE PROBLEM?

The centrality of networks to modern economic life offers one clue to why they feature prominently in our political life. Governments, after all, respond to the pressures of

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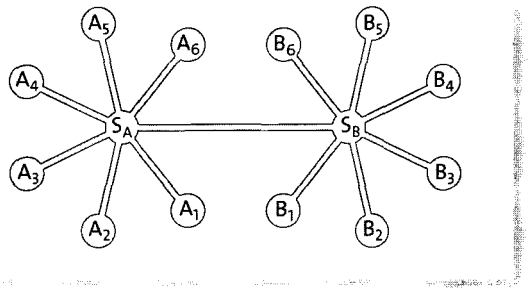
their constituents, who tend to feel strongly about networks. But the features of networks described above would create problems even for a purely private system not susceptible to constituent pressures.

- The positive-externality feature of networks implies that privately priced networks may remain smaller than the underlying benefits would warrant. This may argue for well-focused subsidies even for a privatized Postal Service.
- With larger networks offering greater variety, network sizes may well be unstable. Tipping and winner-take-all dominance may arise, creating market power. Think Microsoft's Windows operating systems for PCs. And with software, the low cost of serving another customer may encourage tipping. In the middle of Microsoft's browser wars with Netscape, both sides were giving away their browsers. Unhappy rivals may claim that such pricing is predatory and file antitrust suits.
- If early-product strategies play an important role in tipping, then superior products that are late in appearing or that experience an early strategic stumble may lose out. Competition among networks may not necessarily yield the best outcomes. Just ask enthusiasts of Sony's Betamax video recording system or of Apple's Macintosh computers.
- Since compatibility is important, the question of who owns the standards becomes crucial. If the standard is open and owned by no one – e.g., the width (gauge) of railroad tracks or the design of a telephone jack – then rivals are not automatically precluded from connecting to the network and offering competing services. If, instead, a standard is proprietary (e.g., the copyright on the essential features of Microsoft Windows), then the owner of the standard effectively controls access to the network and has the potential for exercising market power.
- Those who bought hardware and software compatible only with a losing network will find themselves orphaned and often facing unexpected losses. In essence, purchases of network-compatible hardware and software are risky investments in the future success of the chosen network.
- For networks that require a central node, as in Figures 1 and 2, the node is likely to serve as a bottleneck for transactions, thereby conveying market power to the owner. For example, the Baby Bells' control of their central switches is clearly the source of their market power.
- Investments needed to build a new network may be very large. Thus, competitive entry may be deterred and market power strengthened. For example, replicating all of the pieces of a local telephone network or a railroad system today would be unthinkable.
- To the extent that networks are not owned collectively – e.g., the road system – decisions about the maintenance and expansion of the network become political decisions instead of economic ones.

FIGURE 2
A MORE COMPLICATED NETWORK



It is easy to exaggerate the difficulties that

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networks pose, and policy wonks with an interventionist bent are prone to do so. Remember that gasoline powered cars did supplant carriages in spite of the problem of finding fuel. CDs have replaced vinyl records, even though very few CD players were around at the creation. Still, it is clear that the competitive process in the context of networks is considerably more complicated than, say, competition among hairdressers, haberdashers, or (the favorite of economics texts) wheat farmers.

FOUR NETWORK TALES

Theory is dry and often not illuminating. Consider these concrete illustrations of how public policy has become extensively involved in shaping network industries – sometimes for the better, sometimes not.

Telephones

From Alexander Graham Bell's invention of the telephone in 1876 until the early 1980s, the story of the network was largely the story of AT&T. Bell's initial patents protected the Bell System from competition for 17 years while it expanded its infant local telephone networks. After the patents expired in the 1890s, rival telephone networks appeared. But AT&T's innovation in long-distance technology in the early 20th century gave it a substantial edge. And by refusing to interconnect its long-distance service with rival local telephone networks – in essence, by unilaterally creating long-distance incompatibility – AT&T greatly reduced the value of rivals' networks to their customers. This made it possible for AT&T to out-compete them or to induce them to sell out to AT&T.

Despite a 1913 agreement with the Department of Justice intended to slow absorptions, AT&T continued to expand its ownership of local systems. By the 1920s, the company provided about 80 percent of local service and virtually all long-distance service. The remainder of local service was split among hundreds of small local companies along with a few larger ones, notably GTE. Western Electric, AT&T's manufacturing subsidiary, supplied most of AT&T's telephone equipment.

State regulation of local phone service began at the turn of the century and blanketed the country by 1920. Federal regulation of interstate long distance acquired strength in 1934, with the passage of the Federal Communications Act and the creation of the Federal Communications Commission.

The regulatory agencies set prices for telephone services to various categories of users. Generally, they favored local users over long-distance users, household users over business users, rural users over urban users, low-volume users over high-volume users, and basic services over luxury services and equipment.

Competition in long-distance service began modestly in the late 1950s, with MCI receiving permission from the FCC to offer microwave service for business lines between St. Louis and Chicago. Despite the FCC's general protectionist attitude toward AT&T, other companies such as Sprint began offering similar services. And by the early 1970s, even residential long-distance service was being offered by non-AT&T companies. Similarly, restrictions on competition in the provision of equipment were gradually eased, starting in the 1950s.

The FCC was torn between a recognition of the benefits of competition and the realization that competition could upset the patterns of cross-subsidies described above since competitive entrants were likely to skim the cream from high-margin services. The states saw this conflict even more clearly, and were

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quite hostile to competition that shuffled the burden of costs among consumers.

By 1974, the Department of Justice had concluded that competition could work in long-distance service and equipment sales.

MICHAEL DARTER/PHOTONICA

But as long as AT&T owned the local telephone companies, it was likely to inhibit and distort competition in those areas. Such distortions could occur in at least two ways. First, AT&T's local service companies bought their equipment from Western Electric. AT&T could thus add to the apparent costs of the regulated entities by having them pay too much for equipment and recover those costs through higher rates. Meanwhile, its subsidiary, Western Electric, would earn higher unregulated profits. The same distorted incentives would apply to costs allocated between regulated monopoly local service and unregulated long distance.

Second, long-distance providers could access their users only by traversing AT&T's local switches at both ends of a long-distance call. Local regulation would presumably prevent AT&T from charging monopoly prices for access. Nevertheless, AT&T would be able to impede long-distance competition and efficiency by degrading the quality of its long-distance rivals' offerings through subtler interference. This would allow AT&T to expand its long-distance market share, or to raise its prices, or both.

The Justice Department's remedy was to ask for the divorce of AT&T's regulated local service from its equipment and long-distance subsidiaries. When Judge Harold Greene indicated that the government was likely to prevail, AT&T quickly moved to settle. As of January 1, 1984, the former unified Bell System was separated into seven separate Baby Bells (since reduced to four by mergers) and a long-distance and equipment company – today's AT&T.

By the late 1980s, the Baby Bells were petitioning Judge Greene for permission to offer long-distance services. They took their pleas to Congress, which eventually granted permission in the Telecommunications Act of 1996. But only in late 1999 did the first of the local service companies, Bell Atlantic, receive permission to offer long distance –

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and only to residents of New York state.

Cable television

Cable television networks began as vehicles for improving reception for viewers in remote areas. But in the 1960s, their owners realized that microwave and satellites could be used to import television signals from distant markets. Their initial efforts were opposed by the owners of local stations, who feared the diversion of viewers (and advertising revenues). Broadcasters took their opposition to the FCC, which responded by restricting signal imports in the cause of supporting localism in TV broadcasting. Only in the late 1970s did the FCC move away from this protectionist stance and allow cable to become the wide-ranging source of content that it is today.

Ironically, as satellite-based direct-to-viewer broadcasting became practical in the 1980s, the owners of cable systems lobbied to hobble satellite distribution as they had been hobbled by local broadcasters. Indeed, satellite distribution was substantially freed only last year.

The franchising and rate regulation of cable was initially a local affair. But in the early 1980s, Congress had heard enough horror stories of municipal abuse to convince it to pass legislation that effectively prevented local rate regulation. Hearing a new set of horror stories in the early 1990s, Congress passed legislation that reauthorized local rate regulation. And reversing course yet again, the Telecommunications Act of 1996 scheduled a phaseout of local regulation.

This last action was motivated in part by the hope that cable systems would become competitors to local telephone systems in the provision of both telephone service and Internet access. This has proceeded slowly, at least partly because cable systems are one-way networks. By contrast, telephone networks are two-way, and the Internet is a mixture of two-way (e-mail) and one-way (the World Wide Web). Two-way networks require considerably more switching capabilities at their central nodes.

Nevertheless, the greater capability of a cable connection to transmit large amounts of information to a user indicates the potential value of such conversions for Internet access. AT&T's purchase of a cable company, TCI, in 1999, and AOL's prospective purchase of Time Warner Inc. both represent aspirations to convert cable systems into these more sophisticated networks.

The Internet

Created in the late 1960s as a backup communications network for defense purposes, the Internet had evolved into a global networking system with open (nonproprietary) standards by the 1990s. E-mail and Web browsing, supported by increasingly sophisticated software, have been the mainstay services delivered by the network.

Access to service has remained open and competitive. Many Internet service providers offer access and little else; others (like AOL) attach proprietary content. Users have wide choices, and they pay for what they get (as well as getting what they pay for).

There have been few complaints of exclusion. AOL's recent effort to make its instant-messaging e-mail a proprietary service restricted to subscribers is one of the few exceptions. However, if AOL were to develop into the dominant provider of access, it might be in a position to enter into exclusive arrangements with leading Web site content providers – thereby putting rivals at a disadvantage. This is an antitrust issue waiting to happen.

If cable TV systems become important

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means of access to the Internet, then Internet service providers' access to users through those cable systems may become an important issue. AOL was quite concerned about cable access when AT&T (which is also an Internet service provider) bought TCI. AOL's purchase of Time Warner, with its extensive cable systems, will provide AOL with assured cable access and a bargaining chip for negotiating with AT&T. Just how other Internet service providers fare remains to be seen. Thus far, the FCC has taken a wait-and-see stance on the access issue, and any antitrust actions would be premature.

The information-highway metaphor for the Internet is more apt than is generally realized. Because individual users do not pay directly for use, there is no pricing mechanism to deal with congestion problems or to offer differential speed. Similarly, the overall financing mechanism for the Internet backbone network itself leaves open the question as to whether sufficient capacity will be available in the right places at the right times.

Microsoft and PC operating systems

Microsoft was founded in 1975 as a small software company. It received a phenomenally fortunate opportunity in 1980, when IBM asked it to provide the operating system software for IBM's forthcoming PC.

Most PC manufacturers assumed that IBM was likely to achieve the same dominance in PCs as it had two decades earlier in mainframe computers. By choosing the same operating system and microprocessor for their own PCs, these other manufacturers could promise their customers that (a) applications software written for IBM's PCs would work on theirs as well (indirect network externalities), and (b) files produced on one company's PCs would be compatible with another company's PCs.

Though IBM's PCs never attained the dominance of its mainframes, IBM made Microsoft's operating systems (first MS-DOS and then versions of Windows) the industry standard. And the indirect network externalities proved powerful, as more Microsoft-based PC users inspired more software applications, which in turn attracted even more users.

In the early 1990s, the Federal Trade Commission and then the Justice Department investigated Microsoft. Justice was especially suspicious of two practices. First, Microsoft signed contracts with some PC manufacturers that required them to pay Microsoft a fee for every operating system installed on the company's PCs, regardless of whether that system was Microsoft's. This arrangement made it difficult for the developer of another operating system to induce a major PC manufacturer to install its system on even a fraction of the manufacturer's PC output since the manufacturer would essentially have to pay twice to use the second operating system. Microsoft's contracts extended for as long as five years, again making entry by rivals difficult.

Second, Microsoft allowed applications software developers to have access to early versions of new operating systems (such as Windows) but then insisted that the developers not collaborate with other producers of operating systems for up to three years. Again, this made entry by the latter more difficult.

In 1994, Microsoft signed a consent decree in which it agreed that PC manufacturers would have to pay only for Microsoft operating systems that were installed, and that the contracts would last for only one year. It also agreed that its arrangements with applications software developers would not preclude them from working with other operating systems producers, as long as proprietary infor-

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mation was not revealed.

Nonetheless, in May 1998 the Justice Department filed an antitrust suit against Microsoft, this time alleging that Microsoft had illegally tied its Explorer browser to its Windows 95 and Windows 98 operating systems. Justice argued that Microsoft had an overwhelming market share in PC operating system software which, thanks to network effects, could not be easily challenged. Microsoft had recognized that, when combined with the Java programming language developed by Sun Microsystems, the Netscape Navigator Web browser could usurp Windows' role and thus represented a challenge to the Windows monopoly. So, according to the government, Microsoft responded with a variety of actions that constituted illegal efforts to weaken Netscape.

The judge agreed, finding Microsoft guilty of antitrust law violations. But just how or when the case will be resolved is still unclear.

THE BOTTOM LINE

Some general lessons, as well as a few specifics:

- The nature of networks makes judgments about efficiency pricing more difficult than for industries that are not on networks. There is no assurance that a network monopolist will price its products in a socially efficient manner. But the history of regulatory intervention is hardly an advertisement for bigger government.
- The deregulation of network industries (airlines, railroads, interstate trucking, interstate bus transportation, natural-gas pipelines, long-distance telephone, cable TV, banking), has been a resounding success. Rates of both productivity and innovation have risen substantially. But these successes are no reason to drop the ball on antitrust scrutiny – which unfortunately has been the government's inclination in the cases of both railroads and airlines.
- The principle applied in the antitrust suit against AT&T – that the competitive portions of a network should be separated from the regulated monopoly portions – is valid and should be applied elsewhere. The electricity network, where generation is competitive and local distribution is a natural monopoly, is a good place to start.
- The monopoly problems created by central-switch networks are real and may not give way to market-based solutions. But since regulation itself is inherently flawed, sparing use is recommended.
- Regulatory requirements for universal service ought to be avoided. They are antithetical to efficient pricing, and ultimately to competition. Where a good case for positive network externalities or other reasons for an extended network can be made, targeted subsidies are more appropriate.
- Antitrust law has an important role to play in network industries, old and new. In addition to separating competitive from monopoly components, antitrust law can prevent mergers that unduly raise seller or buyer concentration, prevent entry barriers from being artificially raised, and deter dominant firms from raising rivals' costs. Further, if regulation of network industries is no longer to be the norm, then the obligations of the dominant firm to accommodate rivals' needs to use the networks should be clarified.
- Government-owned networks like the Postal Service and local transportation systems should be subjected to competition just as readily as other network industries are. Again, pleas for universal service in such systems should be met, when appropriate, with properly targeted subsidies – not with restrictions on competition. ▣

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The Nobel Round Tables

So how could we possibly top last year's Global Conference Nobel Prize round-table discussion, led by Michael Milken? With two Nobel Prize round-table discussions from this year's Global Conference. Herewith, excerpts from the two panels, edited for space and readability.

— Peter Passell

MICHAEL MILKEN: I'd like to first introduce **Ken Arrow** of Stanford University, who won his Nobel Prize in 1972. He's worked in many areas over the years, including rational choice, the economics of uncertainty, learning and information technology.

Gary Becker of the University of Chicago received his Nobel Prize in 1992. He's best known for his work in human capital – particularly as it relates to the behavior of family, crime and punishment, and race and gender discrimination.

James Buchanan of George Mason University won the Nobel Prize in 1986. He's worked on constitutional economics, democracy, political decision making – and has strong views on many subjects, which hopefully we'll get a chance to hear this evening.

Lawrence Klein of the University of Pennsylvania won the prize in 1980. He's applied

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econometric models to a broad range of questions, from how commodity prices affect inflation and employment to the determinants of trade balances.

Now for some questions. In the 30-to-40-year-old age bracket, there are similar numbers of men and women in the United States. But as we get older, the percentage of men drops. And by the time we hit our 90s, it's about 78 percent women and 22 percent men. Why?

GARY BECKER: If you look at poorer countries, you do not find that type of gender inequality. In fact, a century ago in the United States, the death rates were a little higher for women than for men. When death was caused mainly by contagious diseases, it hit both sexes more or less equally. I don't think anybody really knows why, but there's no doubt that for the major killers, women are the stronger sex.

KENNETH ARROW: This is medicine or genetics, not economics. But there does seem to be an intrinsic relationship, and it may have some evolutionary significance. Of course, gene therapy may change all that. We'll get greater equality between the sexes.

BECKER: Prior to 1980, Russia had about the same difference in life expectancy between men and women as the United States did. But since then, the life expectancy of Russian men has gone way down, to under age 60. The gap between men and women there has reached 10 to 13 years. It's a phenomenon that nobody fully understands.

MILKEN: Just a couple of years ago, the value of the automobile industry in the United States had about four times the market value of Oracle. Today the value of Oracle is 60 percent higher than the combined value of General Motors, Ford and Daimler-Chrysler. Is there really a "new economy," Larry?

LAWRENCE KLEIN: I wouldn't look at market valuations, but at the more solid statistics of the economy – the national income and product accounts, and the labor-market statistics. I think the most important aspect is the growth in productivity that's taking place now. There's been an enormous underestimate of U.S. potential.

MILKEN: So you believe we have, say, 10 years of rapid productivity gains in front of us?

KLEIN: We'll have ups and downs. But the trend will continue.

MILKEN: How would you compare the Internet today with other technologies, such as electricity or the steam engine, when they were in their infancies?

ARROW: Novelty is not new. Consider the telegraph, which abolished distance as a barrier to the spread of information. Electricity was introduced for illumination, but from an economic point of view, that was a sideshow. The most important thing about electricity was the transformation of the factory. Yet it took more than 30 years from the time electricity was introduced to the time that this revolution took place.

BECKER: When Michael Faraday came to Gladstone, who was then the Prime Minister of England, and told him about electricity, Gladstone asked, "Of what use will this be?" Faraday apparently answered, "It will be of such use that someday you'll want to tax it." And that's also true of the Internet, by the way.

ARROW: I would just point out that Irving Fisher of Yale, now acknowledged to have been the best economist of his time, was celebrating a "new economy" on the day of the 1929 stock market crash. Every argument that Fisher made is identical to the arguments being made by those supporting a new economy. I would just add a bit of caution to those who think that we've arrived at a completely

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Left to right: Gary Becker, Michael Milken, James Buchanan

new world.

BECKER: Some of these technological changes that you were emphasizing, Mike, are "network economies." Let's say you're teaching a course over the Internet. Whether you have 100 people or 100,000 people taking that course, they'll be communicating with each other and without physical contact. That's a major change. It's not replicated throughout the economy, but it's important.

MILKEN: Jim, would you have a different opinion if you thought that communications technology available now would be able to educate and increase the skill set of large parts of the population of our planet?

JAMES BUCHANAN: I certainly share Gary's view that we have not even remotely tapped the potential for using this technology in the education industry, in higher education in particular.

ARROW: The University of Illinois experimented with sponsoring a computerized education program called PLATO some 30 years ago. One of my colleagues gave a course in logic with computers and he claimed it was extremely successful. But it never caught on with the faculty. There are two possible explanations. One is that it really wasn't very efficient. The other is that the university faculty is a bunch of Luddites.

MILKEN: Gary's got a third reason.

BECKER: Nonprofits are just not good at adapting new technologies. They don't have the financial incentive. Stanford, Chicago, Penn, George Mason and the other distinguished universities have a future. But we have 3,000 colleges and universities in the United States that are going to face tough competition from the profit-making sector.

MILKEN: Changing the subject, what analytic tools should economists be using these days?

BUCHANAN: I'm not the proper one to ask that question because I never have believed in statistical regression, the mainstay of modern empirical economics. I'm much more a proponent of George Shackle's view that everything in the future is unknowable.

ARROW: Nothing is going to take the place of good model building, and although this is not the result of the computer revolution, our theoretical structures are far more sophisticated than they were 50 years ago.

MILKEN: If we've made a lot of progress in economics, why do we have so many poor coun-

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tries today in the world? Why haven't we made more progress in places like Africa and southern Asia?

ARROW: They don't listen to us. That's an oversimplification, but it is a good part of the truth. Also, of course, one mustn't underestimate the role of the political structure in the success of a country. Part of the problem is corruption, disorganization, and the lack of rule of law.

BUCHANAN: I think a lot of the advice that economists were giving in the 1950s and 1960s, and even in the early '70s, was not the right advice. I think some of these countries, particularly in Asia, but also Chile, went ahead despite the advice of economists. They succeeded, and their practices were copied by other countries.

BECKER: Overwhelmingly, the advice of the development economists in the '50s and '60s was to close markets, to try import substitution, and so forth. I really wouldn't depend too much on economists, even now. Adam Smith had it right in 1776, when he said, "It's the laws and institutions that matter."

KLEIN: Well, I would emphasize other factors. Very few countries in the world make it to the big leagues on primary products. There must be higher value-added activities. In Africa, it is a question of not having an infrastructure of clean water, sewage systems and education. But they're not doomed forever.

MILKEN: In early 1999, Europe consolidated its currencies into the euro. Jim, what would you say the results have been?

BUCHANAN: Once Europe was committed to political integration as a way to avoid armed conflict, economic integration followed. They've made some critical mistakes, though. Europe had a genuine opportunity to go into what I call competitive federalism, where nations maintain a lot of economic control, yet are forced to integrate their economies by a strong but very limited central government. Instead, they've given too much power to the central authority in Brussels with its residual socialist mentality.

BECKER: I agree with a lot of what Jim said, but come out at a different place. My fear is that Europe will also centralize tax and spending authority. It's kind of paradoxical. On the one hand, we're seeing a trend toward smaller government. Yet, Europe is taking the opposite path.

KLEIN: I don't think the European monetary system is a panacea. It's not necessarily a bad thing. But when the Maastricht requirements [limiting budget deficits] were set up, Europe took the strategy of slow growth and very prudent, restrictive policies. And that will limit growth potential.

MILKEN: There's another major change in the world: developed nations are getting older. In Italy, Hungary and Spain, there are more people over 65 years old than under 14. Ken Manton is projecting that there will be 48 million Americans over 85 in the year 2050. On the other hand, the undeveloped world is very young. How do you see the world dealing with the division?

BECKER: I'm sure everybody on the panel has strong opinions on this subject. We're all over 65, for one thing, except for our moderator.

You will see conflict in two areas: public pensions and health care. Pension costs will grow more or less proportionally with the number of retirees. But medical expenditures have tended to rise sharply at these older ages. Putting it all together, there's going to be increasing pressure to spend more on retirees. The big issue is how to accommodate that.

One step is to go as far as we can to privatize Social Security, whereby people save in individual accounts for their old age rather than depending on others. It's not a magic

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bullet, but I think it has important advantages. Probably the most serious problem with retirement systems in the United States – and an even more serious one in Europe – is that hardly anybody over age 60 works.

If you separated the retirement decision from the asset decision (which a privatized system basically does) you would have large growth in the number of people over 65 who work. After all, not only are older people living longer, but also they're mentally and physically healthier. Besides, work is less physically demanding than it was in the past.

MILKEN: Larry, a few years ago, everyone was talking about not leaving the burden of debt to our children. Now people worry that we're going to pay off all of the government debt.

KLEIN: The day of reckoning for Social Security keeps receding. First it was 2020, and now it's 10 years later. I think we can bank more on productivity growth to push this day of reckoning even further back.

MILKEN: There were about 15 people working for every person who was on Social Security when the system started. Now, we're projecting two people working for every person on Social Security by the middle of the 21st century. Are we putting too much pressure on those two people?

ARROW: The so-called Social Security deficit is on the order of just 2 percent of GDP. I don't think there's any reason to suppose that we can't absorb it in some reasonable way. Furthermore, there's been the increase in productivity. If in fact we're in this new era, Social Security won't be difficult to fund.

BECKER: Medicare is a far more serious problem. I think it's obscene that we're now spending 14 to 15 percent of our GDP on medical expenses, and it's likely to go up. A good part of that spending is in the last year of life. I do not think we have come to grips with learning how to die.

MILKEN: In the United States, 8.4 percent of all adults are starting businesses. In Japan and France, just 1 to 2 adults out of 100 are starting a new business. Is there something unique about the United States that has fostered entrepreneurship?

BECKER: Economists don't really have a good answer. My Italian friends say it has always been that it's so much easier to get a new business going in the United States. We have a more flexible regulatory framework, easier access to capital, more flexible labor markets.

MILKEN: The 10 largest-capitalized companies in the United States have a higher collective value – $3.2 trillion – than almost any stock market in the world. The list is dominated by technology companies: Cisco, Microsoft, Intel and Oracle. Does this reflect a fundamental economic shift?

KLEIN: It's unusual to have such young companies come so far, but I'm still not willing to say it's a "new economy."

BECKER: There's certainly a switch to relatively young companies in the last 25 years. I looked at the *Financial Times* list of the top 500 or so companies in the world by stock market values. Of course, there were a number of major European companies. But what fascinated me was the fact that there were very few *new* European companies.

MILKEN: It's possible this has something to do with financial technology. If you're looking at the last 25 years, the banking system in the United States changed, broadening access to capital.

ARROW: One of the characteristics of these new companies is an enormously high price-to-earnings ratio. The cost of capital seems to be very low to these companies. The discrepancy between rates of return between old and new capital can't really persist. A lot of these new companies are not going to be there – which means they're overvalued now.

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MILKEN: I'd first like to introduce **John Nash**, who was awarded the Nobel Prize in 1994 for pioneering work in the theory of non-cooperative games, a foundation for research in industrial organization, macroeconomic policy and the economics of information.

Douglass North of Washington University in St. Louis was awarded the Nobel Prize in 1993 for applying economic theory and quantitative methods to explain institutional change. His work spans a broad array of topics, including agricultural policy, banking, transportation and the economic development of Western Europe.

Myron Scholes won his Nobel Prize in 1997 for developing the Black-Scholes Option Pricing Model, a method for determining the value of financial derivatives. This model is widely used by businesses in decisions to value any contract whose worth depends on the uncertain future value of an asset.

Reinhard Selten of the University of Bonn shared the 1994 prize for game theory with John Nash. He refined the analysis of dynamic strategic interaction.

Myron, what do you feel about the markets today?

SCHOLES: It's just a tremendously exciting time. So many new companies have been born that have huge value. When I started off, only relatives or close friends would finance your ideas. Public offerings were restricted to companies that had an earnings history or some assets. In my view, some Internet stocks are overvalued and some are undervalued. The crucial thing in valuations is what the growth of these companies is going to be, and how we discount those growth prospects back to the present.

MILKEN: We've had enormous growth of wealth to individuals in their 20s, and 30s and 40s. Doug, has this ever occurred before?

NORTH: Oh yes. The biggest changes have usually been the result of war. The vanquished were enslaved and the conqueror would take all the assets.

MILKEN: But if we looked at it that way we'd be addressing a "zero sum" game. Here we may be looking at an enormous, if unbalanced, increase in wealth. Of course, many bricks-and-mortar companies would argue that their valuations are under enormous pressure as investors transfer their holdings into assets with higher growth.

SCHOLES: All of us think we're innovating, even as we get older. But I think in this market it's the young Turks versus the established participants. It's hard for the old folks to abandon legacy systems and go off into something new when you have the younger, non-established set so willing to take these risks.

MILKEN: Many young companies have decided they'd be better off partnering and working together because they can increase their value. It's not a zero-sum game. And speed to market is so important they'd rather partner with someone who has already built something than try to build it themselves. Reinhard, do you see this as a change?

SELTEN: It is clear that it is interaction with a mix of conflict and cooperation. Not every penny of value comes out of new growth.

MILKEN: A decade ago, 8,500 members of the machinists' union employed by Eastern Airlines went on strike. In sympathy, 8,600 pilots and flight attendants went on strike. Eastern eventually went bankrupt. About 3 percent of the workers had their jobs back a year later, yet many of the people on strike described it as a success because the reputation of Frank Lorenzo, the CEO, was ruined.

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Left to right: John Nash, Douglass North, Michael Milken, Myron Scholes, Reinhard Selten

This might be called an irrational act. Can it be described by game theory?

NASH: It's a little like war. When you have war, you expect some casualties. And the victory is not of the strikers; the victory is of the labor movement. They achieved victory, but there were casualties.

MILKEN: Should the head of the machinists' union have told them that only 3 percent were going to have jobs when it was over?

NASH: When you're landing on the beaches of Normandy, an Eisenhower doesn't tell the troops that only 3 percent are going to survive.

MILKEN: Do we often downplay human emotions when we think about negotiations in business, government or politics? Have you taken these issues into consideration in your models?

SELTEN: Emotion is very important. After all, motivation is connected to emotion. What people want has to come from somewhere. Likewise, business is not just about profit. What managers really care about is power. Empirical investigations show that most mergers and takeovers are not profitable.

SCHOLES: I disagree. Over the last 25 years, tremendous shareholder value has been created by mergers. Otherwise you wouldn't have seen the tremendous efficiency gains in the private sector.

SELTEN: Yes, efficiency is connected. If you are not profitable, you cannot wield power.

NORTH: I want to go back to our assumptions about rationality. Rationality always assumes you know everything about the past, present and even the future, so that you are always making correct decisions within the constraints of the information available. That's a lot of hogwash.

SCHOLES: You don't feel strongly on this, do you?

NORTH: Not a bit. If, throughout history, human beings had really known what they were doing, we'd have done a heck of a lot better. I'm writing about the rise and fall of the Soviet Union. There, you had a belief system that, at least in part, worked. In the mid-70s, the system began to fall apart. In an ideal world, feedback would tell you if it didn't work and you'd fix it. But that feedback eventually failed.

SCHOLES: You could have situations where dictators impose their views, maximizing their interests, not necessarily to the benefit of others.

SELTEN: We know from experiments that reciprocity is a strong motivational force in

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human interaction. Reciprocity means, roughly speaking, "I do unto you as you do unto me." Positive reciprocity is when somebody is friendly to you, you respond in a friendly way. But negative reciprocity means that if somebody does something bad to you, you will do something bad to him. Negative reciprocity in experiments is an even stronger force than positive reciprocity.

MILKEN: So an "eye for an eye" is more powerful than "turn the other cheek?"

Let me move to another subject. Over the years, there have been a lot of fruitful public-private partnerships. For example, the Erie Canal cost was just $7 million, yet it reduced the cost of shipping wheat from Buffalo to New York City by 90 percent and transformed New York City into the nation's number-one port. Similarly, railroad construction was encouraged with land grants. Are we missing opportunities like that today for cooperation between government and private industry?

NORTH: When we look at American growth in the 19th century, public-private partnerships were generally successful – though I can think of ways they might have been more efficient. They do depend on good will, though, and it's not always there. You cite the railroad case. The Interstate Commerce Commission was created in 1887 and it's been destroying and ruining the railroads ever since.

SCHOLES: The output from public-private research in medicine has been profound and has added tremendous value.

MILKEN: Kevin Murphy estimates that the economic value of eliminating cancer and heart disease in the United States would be $46 trillion and $48 trillion respectively. How do you create a public-private partnership to do this?

SCHOLES: One answer is to get funding from the federal government for more research because of the commonality to all of us. Additionally, you have noted the great increase in foundation wealth that has occurred in our country.

MILKEN: This is a fundamental change. When we started the Milken Family Foundation almost 20 years ago, there was only about $25 billion in private foundations. Today foundation assets are approaching $500 billion.

SCHOLES: Medical research is something that society does seem to embrace. So the fundamental issue is, are there enough resources to attack the problems?

NORTH: Don't you have to factor in the costs? I can think of all kinds of projects in the past where we've invested immense amounts that never panned out.

MILKEN: Looking globally, the potential benefit of curing cancer is several times more than $46 trillion. Why are we investing so little?

SCHOLES: Maybe there's been a belief that the private foundations or others would be more efficient than the government at allocating the resources. But if the rewards are really that high, it is only a matter of education until the government makes the investment.

MILKEN: Moving along. Reinhard, where do you see Europe today? Is it heading in the right direction?

SELTEN: We are heading toward something very federal, like Switzerland. There is much power left to the nation-states. Nevertheless, there is a strong bond between the states and common institutions.

NORTH: What about unemployment?

SELTEN: That doesn't have much to do with the European unification. Ireland belongs to the European Union, and it is doing quite well with respect to employment.

NORTH: Isn't it mostly about regulation? If you deregulated Europe, so people can grow and breathe, you wouldn't have these unemployment numbers.

MILKEN: Let's talk about growing and breath-

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ing in Europe. Italy is projecting negative growth in its labor force over the next 15 years; Russia and Germany are at 0.

SELTEN: There will be more immigration, I'm sure. Also, the European Union will expand. Of course, there will be some transition regulations, but I think many people will come to Germany.

SCHOLES: If you eliminate the restrictions on markets, the wealth of society is going to increase. Even if the labor force doesn't increase in Italy, Italians could be much better off because the good and services they consume don't have to be produced in Italy. Production could be more transnational or international.

NORTH: You're assuming that if we eliminated frictions, we'd also eliminate useless government intervention. I can't believe that.

SCHOLES: We want the data, not beliefs.

NORTH: I want beliefs, not the data.

SCHOLES: You want beliefs, I want data.

NORTH: There you are.

MILKEN: The baby boomers grew up in the Star Trek generation, and listened to its directives: though the Star Trek space explorers had time-travel capabilities, they were not allowed to change history. But we're not similarly restricted. With what we know about game theory and other theories, were there events that we could have changed in history? Could Germany have been different, Reinhard, if people had seen things differently and understood the issues, or are certain things inevitable?

SELTEN: There were, of course, misconceptions that were probably unavoidable. Hitler wanted to conquer the world – something that was not foreseen.

NORTH: Reinhard's just supporting what I thought was the argument I made about the powerful role that beliefs, whether they're right or wrong, play in what happens to us. I hear Myron over here saying, well, at the margin we're all rational calculators and therefore, markets work perfectly.

SCHOLES: I didn't say that. You interpreted it that way.

NORTH: I don't want to quarrel. When we have efficient markets, they work very well and they're what we all work towards in order get better economic performance. But behind the demand and supply functions are a set of beliefs about how people are behaving, what is going to happen, and so on.

MILKEN: John, does Myron sound like he's always rational? If you were modeling his thinking and you were negotiating with him, would you assume you have a person acting rationally here?

NASH: He's relatively rationalistic.

SCHOLES: I appreciate that.

MILKEN: A number of years ago, we had a very important business negotiation in Germany. So I asked a colleague fluent in German to listen to what the other side was saying and then report to the other members of the team what he heard. He calls me about two hours after landing and tells me that he thinks they know he speaks German. So I say to him, "How could they possibly know that you speak German? Go back in the meeting, and don't call me back for another day, please."

He called me exactly 24 hours later to let me know that he thinks they think he thinks that they think that he speaks German. And they're saying things because they want him to report it to the other members of the negotiating team to mislead them on purpose. But he's not going to do that. To make a long story short, I asked him to leave the other members of the team alone and to come home. So how would you describe that behavior? Is that a normal behavior?

NORTH: I would just assume that they saw this alien fellow in the room they didn't know, and

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said, "Aha! He's a spy sent by Mike Milken."

MILKEN: Are you saying that people assume the other person they're negotiating with knows more than they do?

SELTEN: That has been shown in psychological experiments – it's called the illusion of transparency.

MILKEN: Why don't you describe the illusion of transparency.

SELTEN: It's about the detection of lying in negotiations. We had people conduct negotiations where they would either hide something or not. We, as onlookers, had to judge who was lying and who wasn't.

MILKEN: Like the quiz show, "To Tell The Truth."

SELTEN: We found onlookers have virtually no capacity to judge who's lying. But people who lie often believe that others can tell. This is the illusion of transparency.

MILKEN: Many of the financial firms that provide safety nets of some kind are now selling at half of book value. For example, Allstate Insurance might sell for only $15 billion today versus maybe $34 billion or $40 billion. What is the market telling us here, Myron?

SCHOLES: That insurance companies have too much capital. They have huge surpluses in the property and casualty areas in particular, so the markets are really telling them to repurchase shares. Capital markets are efficient vehicles for raising capital, but the converse is also true. In the property and casualty area, we're getting much greater worldwide competition. Additionally, I think that insurance itself is not as valuable a product in a wealthier world.

MILKEN: Doug, how valuable was insurance to industrial development?

NORTH: Oh, I think it was very valuable. The rise of insurance was a response to an industrializing world. But we've not only changed the social structure in ways that makes insurance less essential.

MILKEN: There was a time when financial institutions put their names on the tops of big buildings. You had big safes in banks so you knew your money was safe. Now individuals are willing to move their whole net worths electronically to some organization they have never seen.

SCHOLES: Individuals are now being empowered to find out information cheaply. How are financial-services businesses going to adapt? There's going to be a need to figure out the optimal allocation of savings and investment over people's lifetimes.

I'm always amazed that individuals die with tremendous unspent resources, in part because they have to self-insure against living a long time, against failing health, against their assets falling in value. We don't have perfect insurance markets because it's not possible to price these variables.

MILKEN: To change the subject, what do you believe the greatest contribution of the field of economics will be in the next century?

NORTH: An impossible question.

MILKEN: Well, switch it around. What were the greatest achievements of the last century?

NASH: Well, I read *The Economist.* But I'm not really an economist...

MILKEN: And I'm just a frustrated mathematician who got sidetracked. Reinhard, what about yourself?

SELTEN: I think that the 20th century has seen the introduction of rigor into economics, and that was a very great achievement. The task in the 21st century is a different one. The main thing is a better understanding of economic behavior, because we should eventually be able to have some kind of institutional engineering in economics, to be able to predict how organizations work.

MILKEN: Thank you all very much.

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Incentives & Institutions

The Transition to a Market Economy in Russia

ILLUSTRATIONS BY
ALEXANDER KOSOLAPOV

Remember The Grand Bargain? That's right, the 1991 proposal by Graham Allison of Harvard's Kennedy School of Government and Grigory Yavlinsky, a flashy young Russian academic who was at home in modern economics at a time when his peers were still wondering how Marx would have raised grain yields in Belarus. ¶ Allison and Yavlinsky briefly made headlines with a plea for a deal in which the West would spend hundreds of billions of dollars to make Russia safe for capitalism and democracy. It was brushed aside by the Bush administration, which was more worried about budget deficits than about tidying up the corpse of the Soviet Union. However, Yavlinsky lived to fight another day; he heads Yabloko, the only surviving political party in Russia that is committed to transforming the motherland into something resembling a civil state. Yavlinsky is far from the seat of

BY SERGUEY BRAGUINSKY AND GRIGORY YAVLINSKY

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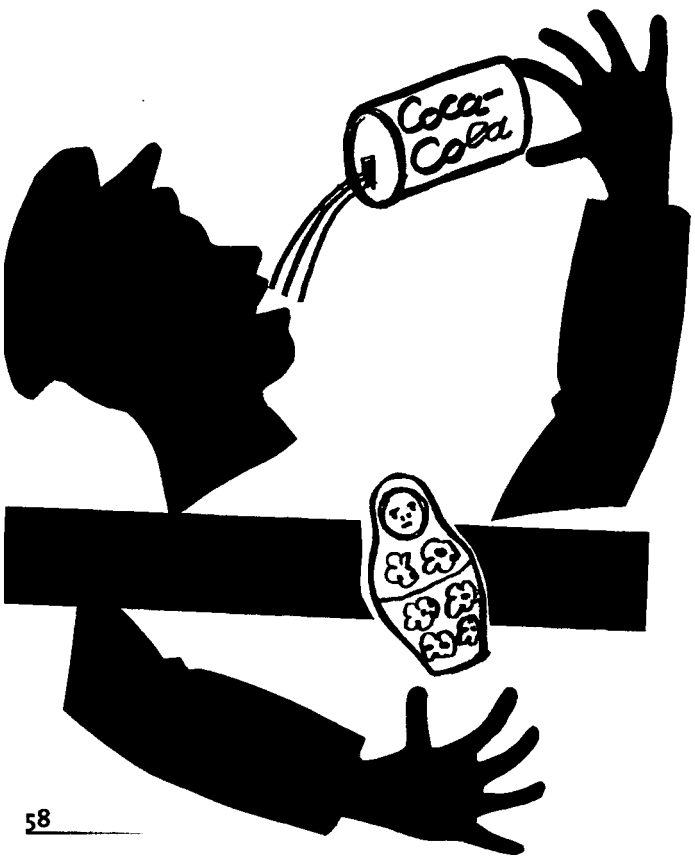
power, but remains influential in the West as one of the few Russian reformers who has not been compromised by the endless intrigue – and opportunities for personal profit – of post-Soviet, post-Yeltsin politics. ¶ Yavlinsky wrote *Incentives and Institutions* (Princeton University Press) with Serguey Braguinsky, a Russian economist who teaches at Yokohama City University in Japan. It's an unusual book, a mix of theory and hard-won policy lessons that reflects the bitter disappointments of Russia's first-generation post-Soviet reformers. But unlike many of their liberal colleagues, Braguinsky and Yavlinsky have not retreated to apathy. Indeed, the contrast between their dark image of a contemporary Russia run by organized criminals and their optimistic assessment of the prospects for a fresh start is quite striking. ¶ More striking yet, they offer a genuinely novel approach to reform – one inspired by game theory. They seek a social contract in which the fruits of more efficient economic organization can be used to bribe the malefactors to embrace competition and democracy. ¶



Is it convincing? Probably not to the cynics among us, who are not far behind the Russians themselves in writing off The Bear as a lost cause. But the two economists do offer an alternative to a sad status quo in which the West effectively pays the Russian government to keep its saber-rattling confined within the old borders of the Soviet Union. —*Peter Passell*

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Russia faces a watershed. Communism is no longer an option. But will Russia become a quasi-democratic oligarchy with corporate, criminal characteristics, or will it take the more difficult and painful road to becoming a Western-style democracy with a market economy?

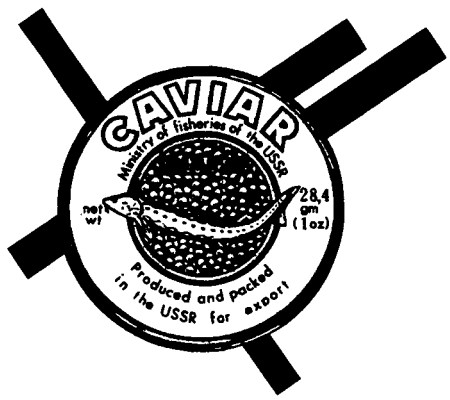
Russians will make this fateful choice – and Russians will be its principal victims or beneficiaries. But the consequences for others who share this shrinking globe should not be underestimated. Contrary to the widespread view that Russia is now essentially irrelevant, this vast country will be important because of its location between the East and the West, its possession of weapons of mass destruction, its natural resources and its potential as a consumer market.

Unlike previous choices in recent Russian history, this one will not be made on a single day by a coup or by an election. Rather, it will evolve through myriad decisions made by Russia's millions of people – leaders and ordinary citizens alike – over the coming years. Nevertheless, the route chosen will be no less important than the rejection of Communism in its effect on our children and grandchildren.

RUSSIA'S ROBBER BARONS

The Russian economy today shows signs of evolution toward Western-style capitalism on the one hand and the consolidation of corporatist, criminal-style capitalism on the other. Until summer 1998, the conventional wisdom in the West assumed the former, and thus saw a Russia progressing fitfully toward a successful market economy.

Russian reformers did manage to lower



inflation and to stabilize the currency – though the fix was only temporary, as the events of late 1998 and early 1999 proved. Some of the newly established and privatized corporations that operate with international sensibilities and ambitions are making their way to the top. Some regions of the country have received favorable international credit ratings, and a handful of Russian companies were able to float bonds in the international market before the government defaulted on its debts in August 1998. And while it occasionally suspends promised outlays because Russia failed to meet tax collection targets or deviated from promised reforms, the International Monetary Fund always seems to find a reason to reinstate its largess.

However, for all the boasts of economic success, most signs suggest the economy is moving toward a "corporatist," monopoly-dominated market and toward a state marked by lawlessness. Markets are driven by large and small oligarchs, whose goals of increasing their personal wealth conflict with the goals of increased economic productivity and a

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better life for the majority. Freedom of the press and other civil liberties have been suppressed. Laws are frequently ignored or suspended, and the constitution is only obeyed when it is convenient. Corruption is rife from the streets to the halls of power. Personalities, contacts and clans count for more than institutions and laws.

Hence, far from creating an open market, Russia has consolidated the role of a semi-criminal oligarchy that was already largely in place under the old Soviet system. In the wake of Communism's collapse, this *nomenklatura* – members of the former Communist Party ruling class – stand in the way of an open competitive economy. They cannot begin to answer the important social and economic questions, for they exist solely to promote their own power and prosperity.

Those who believe that the capitalism of the robber barons will eventually give way to a benign market economy, as occurred in the United States at the turn of the 20th century, are mistaken. The United States already had an established middle class with a strong work ethic, and it did not have the legacy of 75 years of Communist rule and 750 years of czarist totalitarianism before that.

The American tycoons bullied, stole and bribed – but they also invested in their own country. They built railroads and large-scale industrial enterprises where none had existed. They extracted the country's mineral wealth to feed their industrial revolution. Russia's robber barons, by contrast, stifle their homeland's economic growth by investing their plunder abroad. Russia has no middle class, and its oligarchs consume all they import.

With the big boys – they are all male – fighting over the shrinking economic pie, the government has been unable to create economic conditions in which the majority can thrive. The problem is not only that most Russians are worse off than they were before the economic transition began, but that they have little prospect of becoming better off.

Those who believe that the capitalism of the robber barons will eventually give way to a benign market economy, as occurred in the United States at the turn of the 20th century, are mistaken.

The European Bank for Reconstruction and Development recently ranked Russia as the most corrupt major economy in the world. Graft, from illegal book deals in Kremlin corridors to rigged bids for stakes of privatized companies, permeates the country. Recent polls by the Public Opinion Foundation show that Russians believe the best way to get ahead is through contacts and corruption. When asked to select the criteria needed to become wealthy in today's Russia, 88 percent picked connections and 76 percent chose dishonesty. Only 39 percent said hard work.

Anyone who attempts to start a small business in Russia encounters extortion demands from organized criminals – what Russians call their Mafia. So there is no incentive for individual enterprise: better to stay home and grow potatoes at your dacha. A crime-ridden market can support the current level of consumption – which for the majority means

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near-pauperhood – for some time. But it cannot create the basis for real progress.

THE ECONOMIC TOLL

Even a casual look at the data should have convinced observers that something was deeply wrong with the Russian economy long before the crisis of 1998. Seven years of transition had failed to deliver the results that Russian reformers and their Western well-wishers expected. The conventional path, emphasizing the freeing of prices, privatization of state enterprises and macroeconomic stabilization, simply did not work.

By the summer of 1998, Russia's industrial output had fallen almost 60 percent from its peak. Large industrial enterprises were running at just 10 to 40 percent of capacity. Investment in fixed capital assets has fallen even faster than output, running at 20 percent of its peak rate. By no coincidence, the average age of capital equipment in Russian industry was 14.7 years in 1996 – twice as old as in the 1970s.

Deindustrialization is progressing rapidly, with the share of machinery manufacturing reduced from 24 percent of Gross Domestic Product to just 12 percent. The textile industry, fully 12 percent of industrial output in 1990, has been virtually wiped out. Though smaller in absolute size than before the fall of Communism, the resource-extraction sector now accounts for almost 50 percent of what remains of industrial output.

Things do not look any better from the firms' perspective. Far from representing a giant step toward efficient ownership, the privatization program was a grandiose failure. Suffice it to say that six years into privatization, half of the privatized firms were losing money and had piled up unpaid bills amounting to 25 percent of GDP. Today, barely 30 percent of transactions between industrial firms in Russia are settled with money; the rest are settled by barter or through default.

In contrast, the service sector now accounts for more than 60 percent of the country's GDP. And alternative estimates put the share even higher than the official numbers suggest. Indeed, a closer look at the seemingly flourishing private sector in services, trading and banking reveals that we are dealing here not with the germs of a new institutional form, but rather with a vehicle for financial freeloading. Much of the activity does little more than add transaction costs to the resource-extraction sector, dissipating value rather than adding to it.

Moreover, despite the introduction of sophisticated computer-based trading systems, a meaningful capital market does not exist. About 1,500 banks of various kinds were operating in Russia before the financial collapse of August 1998. However, instead of mediating flows of loanable funds between households and firms, they extended short-term commercial credit to businesses (primarily export-import companies) and to the government. Almost all real business investment in Russia is financed from retained profits, and only 3 to 4 percent of all loans provided by the banking system from 1994 to 1998 had terms of a year or more.

These economic failures have had dire consequences for the day-to-day life of ordinary Russians. Real incomes have fallen by a third, and living standards in most regions have deteriorated to levels not seen in many decades. Government attempts to curb inflation resulted not only in tremendous wage and pension arrears, but also in the government's failure to pay its own bills for goods and services. This led to total disarray in payments between enterprises, with up to 75 percent of bills either paid in kind or with

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promissory notes that cannot be cashed. Government pension and wage payments were cut by 60 percent or more in real terms, yet the government is still unable to collect enough revenue to cover its shrinking obligations.

Indeed, combined tax receipts of the federal and local governments have fallen to less than 20 percent of the country's GDP. Meanwhile, external debt has skyrocketed. And domestic debt, which was next to nothing a decade ago, has reached almost 15 percent of GDP.

This list of economic woes can be easily extended. However, the basic message should be clear enough: the economic and social crisis cannot be written off as a temporary recession. Most alarming, there are almost no signs of recovery. Hence, it is extremely important to understand why the outcome of what was widely regarded as the correct course for reform has been so dismal, and what can be done now to put things straight.

AN ALTERNATIVE VISION OF RUSSIAN TRANSITION

Russia's departure from totalitarianism is the only instance among major countries in the 20th century that may be defined, in the words of the American economist Mancur Olson, as a transition that is "entirely internal and spontaneous." Germany, Japan and Italy were defeated in World War II and occupied by the Allies. Besides, each of those countries had had some experience with democracy and with a free-market economy prior to the war. The latter is also true of the countries of Eastern Europe. And in any case, their totalitarianism was not spontaneous, but the result of Russian occupation. And while China is well on its way to a successful transition to free markets, it can hardly be regarded as a democracy.

The spontaneous nature of the Russian transition is probably beyond dispute. However, analysts have yet to grasp the implications. Indeed, it is still the conventional wisdom that economic reform can be imposed from above, with consumers and producers switching seamlessly to profit-seeking behavior in free markets.

All the broad transition plans, beginning with Yavlinsky's own *500 Days: Transition to the Market Economy* (Pantheon Books, 1991), made this linear view of reform the starting point. We still believe that if reform had proceeded under a well-defined institutional framework (as was still in force in the former Soviet Union when *500 Days* was written), such an approach might have been warranted. However, after the collapse of the Soviet Union, hopes for a success along those lines faded. Many of the subsequent programs of transition were more or less complete and ingenious. But all such programs – those developed under the auspices of the government, the IMF or the World Bank being no exception – seem to have one feature in common: not one has ever been implemented.

We find it particularly hard to understand how those economists and politicians who tried to convince the public that the collapse of the Soviet Union was inevitable could at the same time believe they would be able to control events thereafter. The approach that envisages a top-down, straightforward transition from socialism to capitalism suffered a fatal blow when the Soviet Union, with all its formal institutional structures, was dismantled overnight.

Dismantling those structures did not mean that reform could start anew on a blank slate. On the contrary, it just meant that coercive power and leadership functions were transferred to the lower-tier institutions that had survived the collapse of communism.

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Those surviving institutions dictate the structure of incentives faced by economic agents, and largely invalidate attempts to mimic Western free markets by decontrolling prices, privatizing property, stabilizing macroeconomic variables and opening the economy to trade and investment.

The implications of this vision of failed transition are profound. On the one hand, we are led to re-examine the institutional structure of the Communist system in order to understand those elements that carry on after the system's formal collapse. On the other, it is no longer safe to assume that transition will bring Russia closer to a conventional market economy. Indeed, the incentives built into the transition environment are leading to a system that is almost as remote from a free-mar-

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ket economy and polity as the previous Communist system was.

THE FALLACY OF THE HISTORICIST APPROACH

The still widely accepted assumption that the Russian transition will inevitably lead to an open society is, at best, premature. The reasoning behind this assumption represents nothing but the "spell of Plato," or the historicist approach, to which the British philosopher Karl Popper strongly objected. The assumption that Russia must be heading in the right direction is blinding the Russian government and its Western advisers, and preventing the much-needed change of policies. Whenever developments do not fit the optimistic assumptions, the typical reaction is to explain away uncomfortable facts as aberrations.

Ironically, this approach is similar to the way the Soviet Union coped with adversity. When it finally became impossible to ignore the inefficiencies of the Socialist system, the ideologues claimed they were just temporary difficulties encountered along the correct path.

The dismal end of this self-deception is still fresh in our memories. But the arguments that are advanced nowadays to reassure the world that the transition is on track represent nothing so much as a replacement of the idea of the historical inevitability of socialism by the idea of the historical inevitability of capitalism. What is emerging in Russia resembles a market economy and a democratic political system no more than socialism in the former Soviet Union resembled its blueprint in the works of Marx, Engels and Lenin.

WHERE ARE WE?

Taking an honest look at what has happened in Russia since the collapse of the Communist system, we are forced to admit the following. First, as discussed above, the collapse of Communism was the logical end of a lengthy and largely spontaneous process in the Russian society itself, which had started at least 40 years earlier. This legacy is shaping the process of transition.

What is emerging in Russia resembles a market economy and a democratic political system no more than socialism in the former Soviet Union resembled its blueprint in the works of Marx, Engels and Lenin.

Second, incentives intended to transform the Russian economy into a Western-style free-market economy have had unanticipated consequences. New rules and new institutions were imposed on the old structures of economic and political power, which not only survived the collapse of Communism by force of inertia, but assumed almost unchallenged control over the post-Communist scene.

Hence, the economy was not freed from old Soviet-type monopolies; rather, these monopolies were freed from most institutional restraints. The emerging power system relies on control over mineral resources, energy and the government pork barrel. And by virtue of its control over wealth, that emerging system also largely controls the political system and its mass media. Ordinary citizens,

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disillusioned by this turn of events, are inclined to apathy and nihilism.

Third, and most fundamental, the collapse of Communism has led to the entrenchment of an elite that is blocking further movement in the direction of a conventional market economy. The two most important factors behind this lock-in are insiders' markets and Russia's natural wealth. Investment in restructuring and long-term growth is stymied by absence of both long-term capital markets and reliable means for protecting property rights.

This system is kept afloat by an abundance of natural resources. Revenues from raw-material exports grease the wheels of short-term trading and what economists call "rent seeking" – gaining wealth by taking it away from someone else rather than by creating it. The parallel economy of insider trading and easy short-term profits in the resource extraction sector thus complement each other.

This last reality is very important. In a country poorly endowed with natural wealth, a crisis of economic transition would be resolved one way or another within a relatively short period. But in a resource-rich country like Russia, the issue of survival does not immediately arise. Instead, institutional chaos allows plundering of natural wealth, which can be used in part to maintain a bearable standard of living for the downtrodden majority.

A prolonged industrial stagnation results, during which no long-term investment is made. The political system stagnates, too, while successive weak governments survive by catering to the interests of the powerful groups that control the natural resources. The opportunity to pillage thus not only attenuates the sense of crisis, but redirects the ambitious and talented into unproductive rent seeking.

The lavish assistance the West provided to Russia during its initial phase of transition had similar consequences, temporarily relieving pain but not curing the disease. Thus, paradoxically, the uniquely favorable opportunities provided by rich natural resources and the good will of the international community have led to worse, not better, economic performance.

THE NEED FOR A NEW SOCIAL CONTRACT

Although the concept of the social contract goes back several centuries, it has only acquired precise meaning with the development of game theory – a branch of economics that analyzes interactions in which individual economic actors understand that their behaviors affect the behaviors of others. By one enlightening definition, a social contract represents an implicit self-policing agreement between members of society to coordinate on a particular equilibrium in "the game" of life. Each more or less complicated social game can lead to many possible outcomes, or equilibria. A particular equilibrium comes about through repeated interactions of players – businesses, interest groups, consumers, workers – according to the law of the survival of the fittest.

Consider the social decision to drive on one particular side of the road. If half of the vehicles travel on the left and half on the right, the probability of collision is equal for both types. However, if (by pure chance, perhaps) slightly more than half of the drivers choose one of the sides, those who travel on the opposite side will face a higher probability of collision and will be driven out of existence in the long run. The environment thus adopts those individuals who are better fit for it, even though no conscious choice might be involved. In the case of traffic rules, there is no intrinsic efficiency or inefficiency in the

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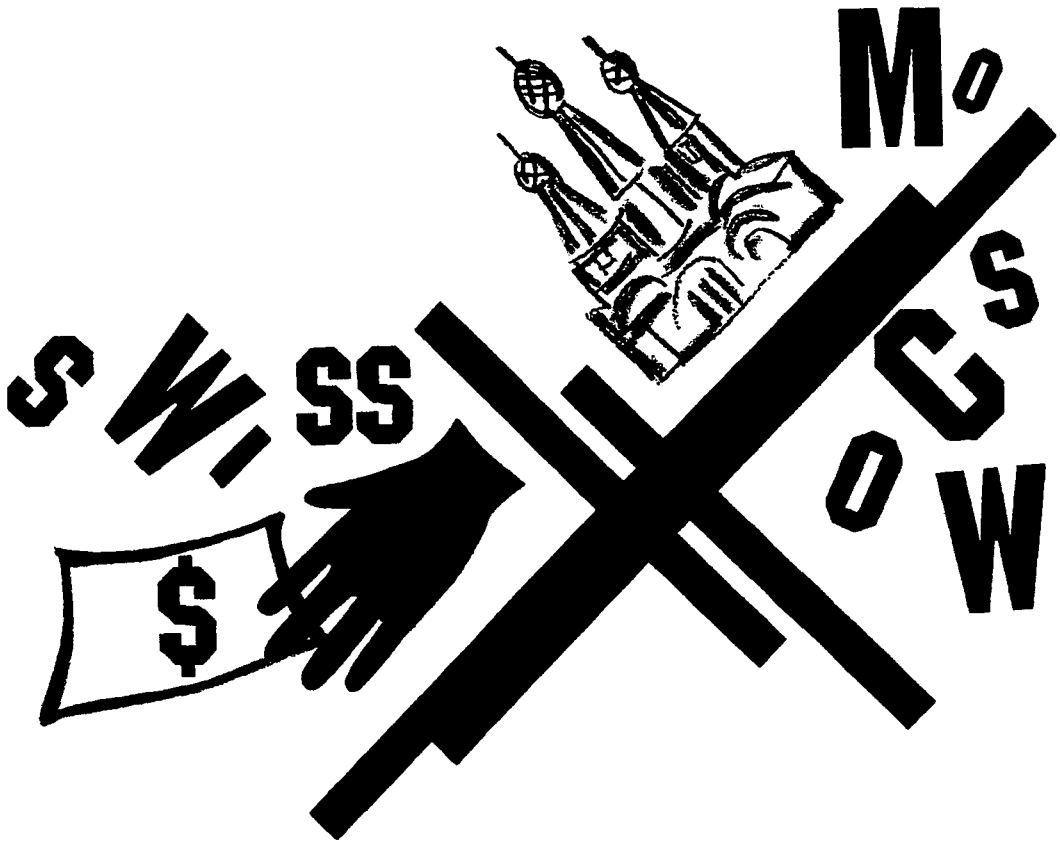

choice of a particular equilibrium. But in many other cases the efficiency of the outcome largely depends on the choice made.

A coordinating authority (a government, for example) can greatly reduce the costs of establishing the equilibrium in a social game – in the traffic case, simply by requiring that all traffic must travel on the right. It is very important to understand the role of the coordinating authority. Formal rules cannot create any new equilibria that are not already present in the structure of the underlying social game itself. What government can aspire to do, however, is to shift the actual equilibrium from a prevailing less efficient one to a more efficient latent one through social coordination.

To be meaningful, a social contract has to be self-policing: the government may foster traffic rules by its coordinating announcement, but what ultimately enforces the convention is the implicit understanding that one is much safer on the road if one adheres to that rule than if one ignores it. Formal arrangements that are not based on such implicit agreements and are not self-policing are usually not worth the paper on which they are written.

The history of post-Communist transformation in the former Soviet Union presents an almost endless list of examples of laws, decrees and other products of institutional zeal that remained irrelevant to the real-life game. This is not to deny, of course, that the formal establishment of a social institution can make a lot of difference, especially in the long term. But the success of a newly introduced institution will depend crucially on the strength of the social interests it helps to organize and on its relative position in the hierar-

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chy of incentives of private agents.

THE SOCIAL CONTRACT IN RUSSIA, PAST AND PRESENT

For centuries, the social contract in Russia was a strictly paternalist one in which all (or almost all) members of the society were guaranteed some minimum welfare in return for absolute obedience in carrying out the orders of their superiors. Although Communist rule dramatically changed the structure of power in the former czarist Russia, it did not alter this basic arrangement.

Indeed, the socialist revolution represented a reaction to attempts to introduce a new form of the social contract in which the ruled would rely more on their own initiative and less on the benevolence of the rulers. Those attempts started in Russia around 1861, when serfdom was abolished. And they continued, albeit with reversals, right up to the Bolshevik coup in 1917.

The Bolsheviks reintroduced almost all the elements of the old social contract, even including de facto serfdom. Ordinary citizens were freed from both the right to make decisions for themselves and the responsibility for choices. This type of social contract was self-policing and, indeed, the only one possible under the Communist system.

However, in their desperate attempts to create a modern industrial economy and a strong military machine, the Communist rulers propagated education and failed to prevent information about Western society and its living standards from penetrating Russia. More significantly, they failed to prevent the incentives given to their officers from coming into deep conflict with the goals of the system. Some cheating had always been present. But under Communist rule, the cheaters gradually dominated the system. The old social contract insuring bread and stability in return for obedience was thus corrupted from the inside and was finally cast off.

The demise of the old social contract has not yet led to a consensus about the form the new social contract should take. There is a growing sense among ordinary people that the paternalist relationship with the state has ended for good, and that they will have to rely on their own devices. The conspicuous failure of the government to provide even the most basic public goods adds strength to that perception.

On the other hand, a great many Russians still expect a return to some form of paternalism, characterized by the absence of the need to assume personal responsibility for one's own well-being. And the rulers themselves, though no longer providing the ruled with a decent standard of living, still cherish the hope of retaining most of their totalitarian powers. This mismatch between reality and expectations, characteristic of ordinary people as well as their government, is the main impediment to a new consensus about the new equilibrium of the social game.

Even that part of the population that initially welcomed the opportunity to become self-sufficient and wholeheartedly accepted responsibility for themselves is becoming disenchanted with the government. Many elements of the old social contract have been left intact just to promote the personal interests of government officials, who need a legal basis for predatory activities. People favoring a new social contract thus find themselves sliding ever deeper into the underground economy. They look inward to small circles of friends and colleagues, and reject any sense of obligation to a broader community.

Another part of the population, especially those who find it difficult to cope with the demise of paternalism, has escalated its unrealistic demands on government and falls into

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apathy when they are not met. Thus, while Russia's return to the old social contract is highly improbable, alienation among various social groups is impeding the development of a new consensus.

Gilding this poisonous lily, the oligarchs have exploited the current chaos by expropriating more assets and making their own contract with the government to enforce their rights to ill-gotten property. It is this (and only this) group that is currently being serviced by the government, and on which the well-being of government officials and the continued existence of the government itself depend.

We can thus distinguish several layers of the social game in contemporary Russia:

- The old, largely dismantled totalitarian contract that the bureaucracy still tries to exploit to its selfish ends.
- The emerging new social contract of self-reliance and freedom of economic activity, which lacks an adequate institutional backing.
- The exclusive corporate contract used by the oligarchs to share the economic spoils with the government.

This segmentation of the social game results in a corresponding segmentation of the society, precluding the establishment of a stable equilibrium. Paradoxically, business as usual is unsatisfactory for the vast majority, yet the equilibrium is fairly stable.

WHAT IS TO BE DONE?

The provision of a clear blueprint for a new social contract is the most urgent task of any government that hopes to reform the Russian economy and polity. A meaningful agenda must be based on an understanding of (and sympathy for) the struggles of ordinary people in the current Russian environment. All previous reforms in this country, starting with Peter the Great and ending with the recent attempt at transition to a market economy, have been conducted by arrogant rulers oblivious to the needs of ordinary citizens. And all those reforms have failed for precisely that reason.

Top-down reform fails to stir real change in the ways the majority live and behave. Without bringing about the motivated participation of the people, no reform policies, whether radical or gradual, ideological or technocratic, will have any hope for success.

A new protectionist (in Popper's benevolent sense of the term) state would need to empower citizens to operate in a competitive market while protecting them from interests that benefit from corruption and rent seeking. This does not boil down simply to more government intervention, or less. The state must become more interventionist in some cases, and less interventionist in others.

A separate challenge is to create conditions in which the state does not assume unreasonable responsibility, but never reneges on the promises it does make. Later in the book, we consider incentive mechanisms through which ingredients of the new social contract can be introduced. The first and most important is democracy itself. The development of democracy implies not only holding elections for the president and members of parliament, but also promoting constitutional changes to achieve a better division of power among the executive, legislative and judicial branches. A trustworthy news service, an independent judiciary and fully developed political parties are also indispensable.

However, democracy at the national level is just the first of the incentives needed to foster the transition to a new social contract. Both political power and financial resources should be decentralized. Russia will be doomed to instability and underdevelopment

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as long as 80 percent of the nation's money remains concentrated in Moscow. Local initiatives and entrepreneurship should be encouraged if the fruits of economic growth are to be shared. Self-responsibility implies self-organization and self-governance, and this principle should be extended to the very bottom layers of administration.

The second element of the new social contract is the introduction of rules to create a true market economy. There must be a decisive break with the past, when administrative power stood above the law. Individual businesses should be regulated by legislation, not by government officials or local barons who are often not easily distinguishable from gang leaders. In particular, the power of oil and gas tycoons, who appropriate huge profits using the country's natural resources, must be curtailed. Their activities should be made transparent, and they should be held accountable to law.

The present system of economic management, where insiders run most large enterprises, must be radically reformed. In particular, the hybrid collective enterprises born of the old state enterprises – whose management styles smack of the Soviet era – should be eliminated. Open accounting that meets international standards is a prerequisite to controlling corruption. Competition must be promoted by removing the red tape and excessive regulation that stands in the way of small- and medium-sized businesses.

Such proposals may seem drearily familiar, and doomed to fail. The novelty of our approach is the explicit focus on incentives mechanisms. We envisage the establishment of new power-sharing schemes and the creation of commercial services that would give businesses and government officials opportunities to reorganize relationships on their own.

Another task, which does not constitute an element of the social contract in itself but would be extremely important in bringing about a more favorable equilibrium of the social game, is a tangible economic recovery. It is extremely difficult to persuade people to take chances on radical change when they face economic decline.

Without bringing about the motivated participation of the people, no reform policies, whether radical or gradual, ideological or technocratic, will ever have any hope for success.

Russia's GDP in 1997 was estimated at just over $450 billion (about $3,000 per capita). Even the official purchasing-power estimates from Goskomstat, the Russian statistics-gathering agency, put the figure at just $4,200 per capita – an unbelievably meager level for a country that was the world's second-ranked superpower only 10 years ago. For the new social contract to possess any serious appeal, people should become reasonably convinced that prosperity is a realistic prospect.

The positive spillovers created by such an environment would play a very important role in changing present-day incentives. The measures envisaged involve, in particular, a departure from uncritical acceptance of the original macroeconomic stabilization policies

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still haunting the Russian government – especially the IMF-led approach to reforms.

Unregulated prices, low inflation rates and a stable currency are absolutely necessary. In Russia, however, these are not sufficient conditions for economic recovery. What we propose here is by no means simple Keynesian-style economic stimulus. Our alternative would establish a new mechanism for monetary growth in which new funds would flow into the expansion of the real economy.

their long-term welfare and limit the scale of corruption.

Pressure groups will resist not only a democratic change of power, but also any attempt to codify a new, competitive form of the social contract. However, we believe that a successful shift to a new social contract would generate sufficient growth to compensate the direct losers. After all, it serves nobody's interests – not even those of the oligarchs – to risk a bare-knuckles collision with

Democratic change at the top is crucially important to the introduction of an arm's-length relationship between the government and the oligarchs.

Last, but not least, the Russian transformation faces the cold reality that almost everything that has to be done can only be done by an effective and motivated government. But the Russian government, by and large, is a captive of oligarchic pressure groups that oppose change. Rather than deplore this situation, we are inclined to create incentives for the government to change itself. As Popper noted, "It is not at all easy to get a government on whose goodness and wisdom one can implicitly rely. If that is granted, then we must ask... how can we so organize political institutions that bad or incompetent rulers can be prevented from doing too much damage?"

We consider devolution of power an extremely important part of the new social contract. Democratic change at the top is crucially important to the introduction of an arm's-length relationship between the government and the oligarch. But it is possible to establish effective incentive schemes for government employees, which will both increase the have-nots.

We have reason to believe that many business leaders, as well as bureaucrats and even politicians, are receptive to the voice of reason. The problem for them, just as for the majority of ordinary people, is that an uncoordinated attempt to move to more efficient rules of the game is likely to be unsuccessful.

A Russia that works for its citizens and plays a constructive role in the world's economy and politics will be a Russia that has chosen well. Its new economic and political system would naturally include many idiosyncratic features, but still would fit the mold of a Western market economy and democracy. We do not think the Western system is ideal: its problems are numerous and well known. But given the current status of Russian society, we would be delighted to face problems of the same kind.

THE COMPLEXITY OF THE TASK

The fundamental task of this transition is to

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create, for the first time in Russian history, a system driven by private initiative. The basic flaw in the current debate is the implicit assumption that the transition to free markets can be decreed from above. Understanding how democracy and free markets work is necessary, as is the political will to get from here to there. But they alone are not sufficient.

The deeper problem is creating incentives that give both the private sector and the government itself a strong stake in the success of the transition. The zeal of elite reformers cannot replace motivated behavior from below. But a good government can and should create conditions under which individuals exercise private initiative in the direction of progress.

Some of the measures contemplated here are far-reaching and controversial. Accordingly, we would like to emphasize that change should be approached with caution. If social engineers can be compared to doctors treating a patient, we should always remember the key principle of the Hippocratic oath: first, do no harm.

The reader will notice that our proposals envisage a period of coexistence between new and old institutions. That is, new forms of government and new elements of institutional infrastructure will first be introduced on a pilot basis, without any attempt to replace the existing system. The ultimate test for our proposals will thus not be through scholarly debate, but through competition among alternative institutions.

ENFORCING PROPERTY RIGHTS

It has become a commonplace that almost no productive activity is possible without well-defined ownership rights. After the collapse of state planning, Russia did find substitutes for delineating property rights and enforcing them. But the current ad hoc arrangement, which relies on private enforcement teams or bribes to the police and other government officials, is highly inefficient.

In fact, it is the inefficiency of this parallel enforcement of ownership rights that offers the best hope for the success of the reforms we propose. If the government can offer economic agents more reliable and more efficient means of enforcing property rights and contracts, the new official system can be expected to gradually replace the existing unofficial one through the sheer logic of competition. In other words, if economic agents cannot be forced to abandon the parallel economy infrastructure, perhaps they can be bribed out of it.

In developed market economies, enforcement of both property rights and contracts is provided by the government and paid for with taxes. Such a solution in Russia is not possible today. Widespread tax evasion has left the government without sufficient revenue to pay even the meager salaries it promises to law-enforcement officers. Thus, many of the officers accept bribes. And even those who are honest often have no choice but to rule in favor of the stronger party, because otherwise the ruling would have no chance of being implemented.

The Russian government has repeatedly stressed its determination to raise tax revenues. But in Russia, distrust of the government makes it impossible to establish an effective, once-and-for-all social contract in the Western mold. The government could perhaps coerce more revenue from businesses. In the longer term, though, that would be counterproductive.

We offer a very different – and, we think, more realistic – solution to this problem. The contract between the business sector and the government should take a more explicit form in which businesses would know exactly what services they are paying for – just as they do

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today when contracting with private enforcement teams or offering bribes to government officials. Our proposed Federal Property Protection Service (FPPS) would create top-down incentives for government to protect private ownership rights, while creating incentives from below to organize along the lines of a conventional market economy.

INCENTIVES-BASED PUBLIC ENFORCEMENT

With the popular perception of the state as yet another bloodsucker – and an especially vicious one to boot – neither passionate appeals nor draconian penalties can be expected to change the tax collection situation. We are thus led to consider second-best alternatives: if the state could offer economic agents a more reliable and more efficient system of protecting property rights and implementing contracts, it could win back their enforcement business.

The Federal Property Protection Service would enter markets now protected by the fragmented Mafia rings. It would have the legal authority to enforce property rights among businesses that purchase its services. We believe the FPPS would eventually be able to dominate the enforcement market, imposing common rules for the economic game.

Firms would have much stronger incentives to switch from their own Mafia gangs to the new federal agency than to switch from one private enforcement gang to another. In fact, the Mafia rings themselves are likely to split, with at least some part of the government apparatus and politicians currently associated with private enforcement teams finding it more profitable to switch to cooperation with the new service.

Specifically, contracting with the FPPS would result in an increase in the value of the firm because (1) the management would be able to retain a much larger share of profits than it can currently, and (2) the risks that raise firms' internal "discount rates" would decline. The first follows from the reality that the FPPS would be able to provide protection services at lower costs, while the second is due to the fact that the FPPS's size and its association with the state make it less likely to renege on its obligations in the future.

Thus, by employing the natural advantage of its economies of scale, the new unified federal structure can reasonably be expected to succeed in driving the gangs out of the protection business. It is worth noting that scale economies alone would result in a considerable reduction in waste in the Russian economy. Indeed, even with an unchanged market structure, replacing the private Mafias with the FPPS would reduce the cost of protection, increase the value of the firms to their owners and expand the planning horizon.

The positive effects would not be limited to those just outlined. For in sharp contrast to the Mafia rings, the FPPS would have no independent interest in preventing the consolidation of small, inefficient firms.

SOME PRACTICAL ASPECTS OF THE FPPS PROPOSAL

We initially envisaged the creation of the FPPS by a special law, with all shares owned by the government. Private payments could take the form of annual or monthly fees. In return, the federal service would guarantee protection from intimidation, speedy arbitration of contract disputes and effective implementation of its rulings. The FPPS would, in turn, have the right to conclude contracts with the police and other law-enforcement agencies to make its promises credible.

To ensure an arm's-length relationship with individual businesses, we envisioned that the FPPS could only make agreements

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with self-organized national, regional and local associations of industrialists, wholesalers, retailers and bankers. Moreover, a non-exclusivity provision in the law establishing the FPPS would guarantee every business the right to join at least one association contracting with it.

While no doubt desirable, however, these latter provisions would make it problematic to finance the FPPS. In particular, an established local monopoly might be better off paying more to a private Mafia for protection from competition than paying less to the FPPS but facing the prospect of erosion of its monopoly. In the worst case, the new commercial public-enforcement system would turn out to be almost as impotent as the present tax-based one.

Hence, it might be more prudent to allow the possibility that the FPPS would, at least initially, be inclined to serve monopolies. However, that does not automatically mean the scheme would be no better than the status quo. A more unified market, with monopolies operating at optimal scale, is likely to represent an improvement over the present state of affairs, in which consolidation on efficiency grounds is hindered.

Consider a simple example. Each region in the Russian Federation currently maintains a vodka monopoly. The interests of those monopolies are typically vested with regional governments and protected by informal enforcement agencies, with the result that high prices and inefficiencies persist in many regions. With the FPPS, the federal authorities would take the side of more efficient producers and retailers and would have the means to protect their interests. Thus, more efficient businesses would be able to guarantee themselves an opportunity to compete in larger markets, driving out the less efficient monopolies.

The same principle applies to conflicts between insiders and outside investors in battles for control of large industrial enterprises. Here, too, the highest bidder (freed from the necessity to pay the gangs) would likely be the one with more funds to commit to restructuring the business and raising its efficiency.

There are several additional reasons to believe that enforcement of predatory local monopolies would decline under the FPPS. First, the whole enforcement process would be taken out of the obscure byways of the parallel economy and moved into the public domain. This would focus attention on a single, well-defined institution – rather than on multiple, elusive private enforcement rings. Corruption is already an election issue. But with the FPPS, individual officials could be held politically accountable.

Second, the legal design of the FPPS could create incentives for rank-and-file enforcers that would motivate them to extend their protection to as many competitors as possible and to reject offers from entrenched monopolies. For example, their bonuses could be made dependent not just on total revenue, but also on the number of contracts they secure, with severe penalties in cases where only one or two contracts were signed in each particular domain of operation. In fact, the FPPS could be explicitly assigned the roles of promoting entry into new markets and fostering the opening of credit lines.

To this effect, a special division could be created within the service that would specialize in registering new businesses and facilitating their admission to the associations with which the FPPS contracted. Another division of the FPPS could serve as a go-between in providing accounting, auditing and legal services – especially for small businesses. The enforcement arm would, of course, effectively protect those businesses from intimidation,

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demolishing one of the largest of the barriers to competition that plague the Russian economy today.

Perhaps most important, the FPPS would neutralize the basic source of power of entrenched local monopolies in the present-day Russian economy. An effective system of overlapping jurisdictions, together with checks and balances among its various divisions and regional offices, should render the FPPS much less susceptible to bias in cases where the interests of different contracting parties collide.

Indeed, the FPPS could develop into an effective mechanism for settling disputes, one not much different from the mechanisms of lobbying and logrolling in even most law-abiding countries. It is, after all, not the presence of those inevitable conflicts of interest, but the nature of private enforcement itself, that makes such conflicts virtually irresolvable – and is the true culprit responsible for entrenching local monopolies in Russia.

Its own monopoly over protection services might lead the FPPS to charge prices above its cost. This, together with the likely bias toward protecting other monopolies, might give rise to concerns that the superior efficiency of the FPPS would backfire, leading to greater entrenchment of monopolies. A constitutional enforcement mechanism based on taxation and a well-defined and properly functioning legal system would, of course, be less susceptible to such problems.

However, one should not lose sight of the limits imposed by current realities. Today, if police officers accept bribes from the Mafia, it is extremely difficult to call them to account since there is no direct link between the taxes paid and the quality of enforcement provided. With a quasi-private FPPS, the agency would only be able to survive by offering a superior combination of price and quality.

The likely monopoly fees collected by the FPPS should not exceed the extra value it provides. Thus, the benefits of the new system would likely spill over into the general population in the form of higher tax revenues and more effective government. Establishing the FPPS as a temporary institution, to be replaced by more conventional tax-based government, could provide an additional safety valve.

What would happen if a business that purchased services from the FPPS had a dispute with a business that didn't? The first business would have the right to call on the FPPS for help. However, favoritism toward the FPPS's own clients would present no problem, since the basic idea is to induce all businesses to become FPPS clients.

In fact, one important justification for discrimination against businesses that do not hire the FPPS is to introduce the taxpaying culture into Russian business life. The reason the New York government is so harsh with unlicensed taxis (while Moscow's is so lenient) lies in different attitudes toward the problem of tax collection.

The FPPS would represent a first practical step toward introducing the taxpaying culture into the Russian chaos – one that initially relied on economic incentives. Once most of the Mafia retreated, the FPPS could be transformed into a more conventional mechanism for general public law enforcement funded by taxes.

It cannot be overemphasized that the success of the proposed scheme would depend on how the new institution was staffed and supervised by the government. In this sense, the maintenance and enhancement of the democratic political system, including a free and independent press and an independent judiciary, is a crucial prerequisite.

Even more important, none of our pro-

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posals could be successfully implemented as an isolated measure in an unchanged political environment. Only by combining all, or at least most, of the policy measures proposed can we be sure that the changes would attain critical mass and that launch the society toward a new social contract.

INSIDERS' CONTROL AND TRADE UNIONS

Under the old totalitarian system, Communist Party rule provided an institutional mechanism for supervising the activities of state-owned enterprises. The collapse of this control and the absence of alternative means to check the behavior of insiders represent a major problem for the economy in transition. Hopes that commercial banks and financial-industrial groups could provide effective corporate governance have so far been unfulfilled. We think strong trade unions could help to fill this gap.

With the significant exception of coal miners' unions, organized labor is virtually nonexistent in Russian enterprises today. This is not surprising in light of the fact that unchallenged corporate control by insiders deprives most industrial workers of the opportunity to earn a living. Here, as in the case of enforcing private-property rights, we encounter what is basically a coordination problem. If the workers could control what the insiders do, they would probably be able to earn a living at their own official workplaces, which in turn could limit malfeasance.

Thus, the promotion of a strong trade union movement is likely to create another social force with a stake in normalizing the rules of the market game. In particular, trade union control would make it much more difficult for managers of previously state-owned enterprises to beat the system.

For example, in one Moscow factory that we studied in some detail, the leader of the trade union took the initiative in a successful campaign to oust the corrupt incumbent manager and his friends. The new management, appointed from the outside, did express some concern over a possible future clash of "class interests" with the strong union, but enthusiastically praised the union's role in saving the enterprise from total collapse.

Today, if police officers accept bribes from the Mafia, it is extremely difficult to call them to account since there is no direct link between the taxes paid and the quality of enforcement provided.

Organized labor can also be expected to function as a strong countervailing force to intimidation by gangs. Indeed, if union-organized vigilance by workers were combined with the establishment of a FPPS, we could expect the Mafia's rather speedy retreat to its natural sanctuary in gambling and prostitution.

Promoting organized labor would likely meet opposition because of fears that trade unions would become one more powerful interest opposed to the much-needed restructuring of Russian industrial enterprises. However, we believe that those fears are not well founded. The most important task for Russian society now is to institutionalize the

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process of bargaining and logrolling. Whenever we can succeed in bringing this process out of the shadows it is likely to result in increased, not diminished, efficiency.

More specifically, the main problem for these enterprises is the lack of incentives for insiders to maximize the long-term value of their firms. Ordinary workers, who do not have access to the profits, are likely to have a greater stake in the future performance of their enterprises in order to preserve their jobs. We believe the need to respond to union demands would thus discipline the management. A similar effect was observed in postwar Japan, where the promotion of a trade union movement was a cornerstone of the policies introduced by the American occupation forces in their effort to change the structure of the Japanese economy.

THE IMPORTANCE OF ECONOMIC GROWTH

As we have shown, an environment of growth is vital to the success of economic restructuring because only economy-wide growth can provide adequate incentives. We can expect a decisive breakthrough in Russia only when investors are convinced that they can expect high profits from producing for competitive markets. And honest profits will remain elusive as long as the economy is stagnant. Note, too, that economic growth is a prerequisite for the social stability that makes prosperity possible.

The Russian economy has been in serious decline since 1992, and the cumulative effect has been more severe than the effect of the Great Depression. So far, the collapse has not led to much open unemployment, in part because of the ample opportunities for malfeasance and rent seeking in which some of the wealth of the newly rich new Russians has trickled down into demand for domestic goods and services.

However, those sources of income are now attenuating, and the Russian economy is in danger of sliding into mass unemployment. Thus, a resumption in investment and the growth of manufacturing, the only way to create stable jobs and sources of income, will become vitally necessary in the next few years.

Under the present structure of incentives, the government is needed to jump-start the process – that is, to move a rent seeking economy from its bad equilibrium. The dismal results of Russian reforms so far can largely be blamed on the failure of reformers to grasp this fundamental point.

Proponents of shock therapy argued that macroeconomic stabilization and other measures envisaged in their reforms would by themselves create the preconditions for growth; they thus saw relatively little problem in the temporary fall or stagnation of output per se. It is true, of course, that economic growth would be hollow – and perhaps even detrimental to the transition to a market economy – if it were attained without structural change. But there is a vicious circle involved: meaningful growth is impossible under the old system, yet the absence of growth itself leads to further entrenchment of this old system.

We believe that the vicious circle could be broken on the side of economic growth. To this end, we propose several government policies to promote investment in priority industries, which could be carried out relatively independently of the overall economic environment. The success of those policies would give a powerful boost to the process of systemic change, raising the prospects for the success of the other measures envisaged in our design for reform.

It is extremely important to bear in mind the danger of overreaching. One fundamental

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reason for the failure of every growth-promotion policy tried so far is that Moscow spread its resources too thinly. Individual projects were funded with just 20 to 30 percent of their budgeted cost, and most of the money was thus wasted on unfinished work.

However, growth-promotion policies of this type were extremely efficient in enriching certain government officials, as well as bankers and other captains of the Russian economy. We would call a halt to this practice of spreading resources thinly. The government should concentrate on the most important strategic goals. Moreover, those projects that are undertaken should be financed from new revenue sources. The tax base is already vastly overburdened.

The government should also make sure that its most motivated officials – those with a proven reputation for integrity – monitor and supervise each project, at least for its initial years. Additional projects should be undertaken only as the success of previous ones brings the government new revenues and expands its means of effective monitoring.

INDUSTRIAL POLICY AND PRIVATE INCENTIVES

Economic growth should be promoted through strategic industrial policy, in which the government specifies priority industries and provides both cash and access to wider markets. The immediate choice of projects should be made with a view to the prospects of getting access to non-inflationary financing (especially foreign direct investment), as well as to the importance of the industries in terms of technological multiplier effects and new job creation.

The initial focus for industrial policy in Russia should be the country's oil and gas industry, which tops the list of industries with the largest potential export competitiveness. However, this should not be understood simply as developing new oil and gas fields with the goal of increased extraction, exports and government revenues. The purpose of the government policy with respect to the oil and gas industry should be to make sure that investment not only leads to expansion in the energy industry itself but also stimulates the reconstruction of related industries.

A key component in this strategic industrial policy is the full implementation of the 1996 law on product-sharing agreements (PSAs). Under that law, oil and gas developers pay an agreed-upon share of their output in lieu of taxes, and are free to dispose of the rest as they wish. If enough direct investment can be attracted into oil and gas, the effects would be felt far beyond the energy sector.

The PSA law also mandates competitive bidding for contracts to supply equipment and do construction work. Some analysts argue that Russian suppliers, among them former military factories in regions hit hard by the transition, would have a good chance of winning those contracts in a competitive market. This could provide the opportunity for the big push needed to reverse the current economic decline, with the steel, machine-building and construction industries among the major beneficiaries.

The incentives could break the current vicious circle in which enterprises are cheating the government of taxes while the government is trying to compensate by squeezing firms for all the profits it is able to track. Since the tax rate is fixed in kind for all projects covered by the PSA law, all financial transactions can be made transparent. It is important, of course, that Russian suppliers of equipment and construction services for PSA projects should also be able to elect a PSA-type taxation system. The parties to PSA-related transactions would then have less

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incentive to hide their revenues.

It would make sense for the government to provide firms that have succeeded in becoming internationally competitive suppliers to the energy industry with an exemption from their tax arrears, thus reducing incentives to hide profits that might be seized to pay the back taxes and assuring stable tax revenues in the future.

The PSA projects would also show other previously state-owned enterprises that the new system offers better opportunities than the existing system, which is based on barter transactions and IOUs. A vicious circle will be replaced by a positive one.

Note that this new system would not be created as a compulsory replacement for the old one. Rather, a range of relationships between the government and oil and gas developers would coexist, with competition determining which one predominates. The use of bargaining to set tax rates may not seem particularly appealing. However, we must again stress that such bargaining was firmly entrenched in the Russian economy long before the collapse of planning. Our proposal would simply make the bargaining process explicit.

Unfortunately, the initial effects of the PSA law have been mixed. The benefit to the Russian economy so far appears to have been limited to lump-sum payments to the federal and regional governments, which have been used to finance current expenditures, such as pensions and salaries for government employees.

It is difficult to make even a good law work in the Russian environment, which is generally hostile to competitive activity. As we have stressed, only the concerted implementation of the whole complex of measures aimed at changing incentives can possibly lead to favorable results. Once the overall environment begins to change, perhaps the federal government should take a more interventionist stance, including a local-content provision specifying the share of tools, equipment, and other products and materials that ought to be supplied by domestic firms.

The use of bargaining to set tax rates may not seem particularly appealing. However, we must again stress that such bargaining was firmly entrenched in the Russian economy long before the collapse of planning.

In any case, it is important that Russia not squander its mineral wealth just to cover its budget deficit. The country should use the PSA revenue to create new enterprises in manufacturing that possess high international competitiveness.

Among other industries that might feature prominently in the initial phase of the industrial policy, we would be inclined to single out construction engineering, textiles and wood processing as well as auto, aircraft and furniture manufacturing. Naturally, this list should be reviewed as conditions change. The important thing is that the government can do more, even with its current limited means, to create incentives for restructuring and industrial growth.

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TAXATION AND THE STATE OF EXPECTATIONS

We attach special importance to the implementation of PSAs in the energy industry because we believe that the product-sharing scheme of taxation developed in the oil and gas industries ought to be applied in a much wider context. The key incentive-related point is that firms taxed under this scheme are free to disburse all the profits left after meeting their obligations under the PSA – and are thus freed from the need to conceal sales and revenues. The hide-and-seek game played by businesses and the government not only causes budget problems but also raises transaction costs in the private sector. The change from taxing net income to taxing a share of output would greatly simplify the rules of the game for both sides. Competition among local and regional authorities to attract new investment should limit the share accruing to the public sector to a reasonable level.

PSA-type taxation need not be introduced as a compulsory reform; the current system could just be supplemented. Firms that would like to switch to the new system would negotiate their tax payments with the authorities, using, for example, the average amount of taxes actually paid over the past few years as a benchmark. If no agreement were reached, the sides could go their own ways and the existing tax system would apply. If an agreement were reached, though, the firm's management would be free of government harassment, while the government would have an assured flow of revenue.

The key feature of this mechanism is that it should be more attractive than the existing tax system for both government and business. The proposed new scheme is only superficially similar to the current system of selective preferential treatment adopted by the Russian government, which amounts to arbitrary granting of tax- and customs-duties exemptions. This has led to widespread corruption and the waste of resources in rent seeking, with none of positive effects that our scheme would bring.

Today, the firms that receive preferential tax and customs treatment may not be financially strained at all – though they cannot reveal their wealth for fear of a public outcry. Their bargaining with the government also takes place in the form of insider negotiations behind closed doors. Under our scheme, the choice of the fixed operating license fee has nothing to do with the (officially announced) financial position of the firm, so firms that come to agreements with the government would have no incentive to conceal their revenues. True, the bargaining procedure would waste some resources, but nothing on the scale of the current system. Future breakups or mergers of firms would present no difficulty if successor companies were contractually obligated to honor their agreements.

As shown earlier, expectations are likely to play a significant role in determining when and if post-Communist producers switch from the parallel economy to competitive markets. Hence, no measure that would increase confidence in the future, however small its immediate effects, should be neglected.

The government should commit itself to a realistic and credible long-term policy in which each industry knows its place in the list of priorities. Reducing the level of uncertainty would in itself help restructuring by diminishing the need for businesses to keep all their options open.

FINANCING LONG-TERM GROWTH

The present-day Russian banking system and financial markets do not perform the func-

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tion that they ordinarily perform in a market economy – that is, channeling private savings into real investment. Russia's capital markets are as insider-oriented as the rest of the economy is. Hence they cannot provide Russia with an effective risk-sharing mechanism.

Each investor is forced to assume large stakes in a limited number of projects, with the inevitable outcome that only projects involving the prospect of a quick return are undertaken. Those projects are mostly limited to operations with government bonds, or to financing foreign trade and currency-exchange operations. Since the fall of the Soviet Union, long-term loans to the nonfinancial sector have constituted barely 3 to 4 percent of the total extended by commercial banks.

Our proposed initiatives would not require any immediate changes in the capital markets. In particular, they would not require a crackdown on speculative financial operations. Instead, they would be aimed at creating flows of new investment money, through newly established competing financial institutions. If the new investment projects prove themselves lucrative enough, existing flows of money will also be attracted to the new system and away from inefficient short-term operations.

Our proposal here consists of two parts. In the first, we would establish a new State Insurance Fund, in which the government would deposit money on behalf of its employees receiving special incentive pay. The money would be borrowed from the central bank. And it would be frozen in deposit form for at least 10 years – curtailing the immediate inflationary consequences from increased claims on the central bank.

The asset side of the fund would be principally composed of a long-term loan to another new state-sponsored financial institution, the State Development Bank, whose sole function would be to invest in the long-term development of Russian manufacturing. The investment guidelines would be periodically reviewed together with government priorities in industrial policy. For instance, if the initial priority for industrial policy is to revamp enterprises supplying equipment to foreign investors, that would also become the priority for the development bank's loans.

It is important that the initial investment capital be financed from new sources, so that the development bank would not have to compete with other savings vehicles and pay extremely high interest rates. In fact, the development bank should have no concern whatsoever about the level of short-term interest rates in the Russian financial market.

What makes this scheme different from direct financing by the state is the independence of the development bank. When the financing of restructuring is provided directly, the process is vulnerable to rent seeking. With an independent State Development Bank in charge, there is hope. Of course, skilled professionals of high integrity would have to be in charge, and foreign experts, especially those with experience in similar governmental and quasi-governmental institutions, should be invited to serve as executives. The accounting and auditing standards should correspond to the highest international standards.

With each successful project, the State Development Bank's position in the financial market would presumably become stronger. This would allow it to join in financing projects with private lenders, and it could thus foster the shift of private banking in Russia from its present role as a source of short-term funds to its proper function of financing industrial development and economic growth. M

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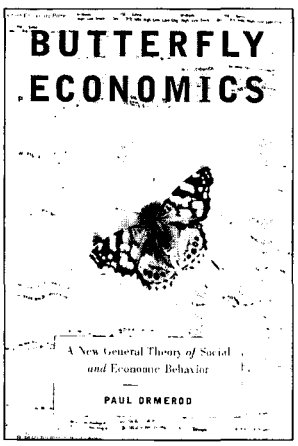
When the great Victorian economist Alfred Marshall took up the subject a hundred years ago, economics looked like a dying field. Its moral authority was in tatters, its methods under attack. Sociologists were scornful of the notion that the complex stew of human endeavor could be boiled down to a few simple laws. Historians argued that each epoch was subject to its own dynamic, discoverable only by those who studied history. Even after the publication of his best-selling *Principles* in 1890, it took Marshall years to persuade Cambridge University to offer a degree in economics.



Butterfly Economics: A New General Theory of Social and Economic Behavior

By Paul Ormerod

Pantheon, 240 pp.; $24

Reviewed by Sylvia Nasar

Today, its survival is no longer in question. The White House has its Council of Economic Advisers, as does the chief executive of virtually every other government. Unlike sociology or history, economics has its own Nobel Prize. Recently, *The New York Times* added an economics column to its op-ed page. And an astonishing number of people – some 100,000 in America alone – list "economist" as their profession.

Yet widespread doubts persist about the legitimacy of economics. Irritated by economists' disregard for psychological and social nuance as well as their penchant for mathematical complexity, many intellectuals consider the entire mainstream of economics from Marshall on to be an aberration. Indeed, John Kenneth Galbraith, the Harvard economics professor who achieved best-sellerdom by dissing the dismal science, called it "a failed profession."

Butterfly Economics: A New General Theory of Social and Economic Behavior is very much in the Galbraithian tradition of dissent. Paul Ormerod, also the author of *The Death of Economics* (Faber, 1994), is a British business consultant who studied economics at Cambridge. And in his new book he doesn't just trash mainstream economic theory ("an empty box"), but offers his own heterodox alternative.

SYLVIA NASAR, the author of *A Beautiful Mind* (Simon & Schuster, 1998), is working on a history of modern economic thought.

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Unfortunately, Ormerod's reach exceeds his grasp. Not only does he lack Galbraith's wit, verve and feel for real-world events, Ormerod is proof that critics are sometimes more prone to oversimplification and overgeneralization than their targets.

The trouble with "orthodox" economists, as Ormerod sees it, is their mindset: "In essence, the world is seen as a machine.... A lever pulled here or a button pressed there will have entirely predictable consequences." This mistaken metaphor, says Ormerod, has produced a host of regrettable outcomes, from misguided micromanagement of economies by governments to the failure of anti-crime efforts. To turn things around, Ormerod argues, economists should adopt a model more appropriate to a system as complex as human society – namely, nature.

Economists need to embrace a "fundamental view of society as a living creature which adapts and learns." Economies are like "living organisms," he writes. "Individuals do not act in isolation, but affect each other in complex ways."

The critical aspect of human behavior that he thinks economists ignore is the propensity of people to copy one another. Herd behavior, he says, is the key to everything from the stock market's wild swings to the triumph of an inferior technology over a superior one, like VHS over Betamax.

Ormerod thinks the key to understanding human society in general – and economic behavior in particular – lies in ant communities. (Alas, the more aesthetically appealing butterfly metaphor of the title hardly figures in the book.) He is particularly fascinated by an experiment conducted by some entomologists in the early 1980s. Faced with two equally desirable food supplies, it seems that ants don't divide their time equally between the two piles. Most of the colony will feed at one, while only a small minority will go to the other. Occasionally, there's an abrupt flip-flop and the previously shunned pile will suddenly attract a swarm.

What explains this counterintuitive behavior? Ants usually copy the herd, but occasionally they try something new. When, by chance, some ants decide to try this new thing, others follow the crowd.

The critical aspect of human behavior that he thinks economists ignore is the propensity of people to copy one another.

Ormerod thinks that people are as prone to be followers as ants. Why else would currency traders plunk billions on francs or pounds that everyone agrees are grossly overvalued? Why would investors gobble up Amazon.com stock when the outfit has yet to earn its first dime? Or why, for that matter, would divorce and crime soar in some periods and not in others? "People or companies are influenced directly by what others do," says Ormerod. "Economics and the other social sciences will, I believe, eventually adopt this model."

Copycat behavior no doubt explains some of life's maddening unpredictability. But is it really true, as Ormerod claims, that the notion that popularity breeds popularity is a revelation to economists?

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A glance at a few of the volumes on my "bookshelf of academic tomes" (which the blurb on the cover of Ormerod's book says I can now toss) indicates that economists have not been as clueless on the subject of herd behavior as Ormerod claims. Economists have been borrowing models from biologists for years, and vice versa. So far I haven't found one who portrays the economy as a predictable machine that can be controlled by fiddling with a few dials – which may be the reason that Ormerod never once attributes these silly sentiments to any particular practitioner.

Take Marshall. He was a great fan of Darwin, fond of biological analogies and a staunch believer in "the essentially organic character of the larger and broader problems towards which we are working our way."

Marshall was particularly fascinated by one example of herd behavior: the tendency of businesses to set up shop in a particular location simply because other firms were doing so. In fact, he and his wife, Mary Paley, also an economist, spent part of every summer holiday visiting the Silicon Valleys and Route 128s of their day: Sheffield, the center of the cutlery industry; Staffordshire, where pottery was made; Nottingham, with its lace factories.

Extensive interviews with owners and workers gave Marshall some ideas about why firms (and workers) tended to cluster. A large market for people with specialized skills, he noted, gave employers insurance against labor shortages and gave workers insurance against unemployment. Likewise, a market for specialized services could support engineering, design and other skills. Finally, proximity promoted the exchange of information and hence the spread of new technology.

What's most interesting here is that Marshall used these down-to-earth observations to infer the importance of positive feedbacks, including increasing returns to scale, externalities and even the powerful role of historical accident. No wonder economists, who have spent the past quarter century working out the implications of feedback mechanisms, are the first to acknowledge that it was "all in Marshall."

An important question lurks here. If the founder of modern economics did, in fact, view the economy as a complex, organic system that evolved over time and realized that herd behavior was important – all issues that Ormerod says are essential for his own theory – why did it take so long for economists to build them into their formal models? Ormerod's answer is that economists are blithely unaware of life's complexity and tend to suppress the insights of "apostate economists" and of "deviants from the true faith." But as even a casual glance at convention-defying recent Nobel Prize winners reveals, this explanation won't do.

Marshall himself suggests part of the answer: "It is true that the analogies offered by mechanics are simpler than those of biology and are therefore more helpful in the earlier stages of economic analysis."

But a richer explanation can be found in *Development, Geography and Economic Theory* (Bradford Books, 1995), a lovely little book by Paul Krugman.

Why, Krugman asks, did economists discover, then ignore, then rediscover something as seemingly obvious as geography in modeling economic activity. "These fields were left untilled," he answers, "because the terrain was seen as unsuitable for the tools at hand."

Krugman argues that the study of location of economic activity was abandoned because the increasing rigor of economic thinking required simplifying assumptions. Economic theory was built on a foundation of assumptions about relatively few aspects of behavior

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– mainly self-interest and interdependence. Something was gained in the modeling process, Krugman says – but something was lost as well.

He compares the development of economic modeling to the evolution of mapmaking in the 19th century. As the field became more scientific, new maps of Africa initially offered less detail than earlier ones because details based on folklore and anecdote didn't meet the new standards of rigor. A model is good, Krugman writes, "if it succeeds in explaining or rationalizing some of what you see in the world in a way that you might not have expected."

In short, there's a huge leap between saying that new models capture some aspects of behavior that conventional models ignore and condemning all of economic theory for its tendency to oversimplify behavior. It also makes sense to be suspicious of grandiose claims.

The track record of heterodox models has not been overwhelmingly successful, either; in the case of herd behavior, that is perhaps because it is hard to model in revealing ways, or perhaps because it is less dominant than Ormerod thinks. For example, complex systems used to predict future demand and supply of natural resources – remember the Club of Rome? – have not added as much to understanding as the dreary old competitive, profit-maximizing models.

The most insightful – and fun to read – critiques of mainstream theory come from inside the field, not outside. One is *The Economics of Non Human Societies* (Pallas Press, 1994), by Gordon Tullock, in which Tullock uses observations of ant communities to throw light on the subject of coordination. Another is Krugman's *Peddling Prosperity* (W.W. Norton, 1994), an incisive description of new theories of growth and trade that incorporated positive feedback principles. Still another is Richard Thaler's clever and well-written *The Winner's Curse* (Princeton University Press, 1992), an entertaining catalog of anomalies and paradoxes that involve herd behavior and other violations of economists' standard assumptions of rationality and selfishness. (Altruism, incidentally, is another subject that engaged Marshall, who flatly rejected the caricature of the "economic man"). Thaler's most striking paradoxes – including gyrations in prices far in excess of anything that new information about risk or return could account for – come from financial markets where players have the strongest incentives to behave optimally.

It's telling that those who have done the most to challenge conventional thinking are least prepared to toss out all those "academic tomes." "What are we to make of these anomalies?" Thaler writes. "Do they together call for the demise of economic theory? For several reasons, the answer is no." Among other things, he says, "There is no good substitute available." Note that he's not saying there never will be a substitute – only that, until there is, the old tools are still worth using.

In short, Ormerod should have looked beyond the caricatures of economists to scholars like Krugman, Tullock and Thaler. For, whatever its shortcomings, conventional economics is the only game in town worth playing.

"There are at most a handful of non-economist social scientists who have seriously studied financial markets, and there is nothing resembling a behavioral alternative to the capital asset pricing model," concludes Thaler, adding that, "if one should emerge, it is more likely to come from behaviorally oriented economists than from psychologists or sociologists."

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BY WILLIAM H. FREY

Medical breakthroughs and lifestyle changes over the course of the 20th century have increased the life expectancy of Americans by some 28 years. And this increased longevity has ramifications beyond the obvious, because it will magnify the economic impact of the baby boomers – all 76 million of them – as they begin entering elderhood around the year 2011. Indeed, the group that has bulled its way through the nation's school systems, labor market, housing market and stock market is set to transform the institutions of aging through the sheer weight of numbers.

JIM KRANTZ/STONE

The impact is already being felt, of course, as the shadows of Social Security, Medicare and Medicaid loom over budget politics. But this preoccupation with the boomers' overwhelming impact on future federal budgets obscures some key issues linked to demographic divisions – in particular, how socioeconomic differences are creating new schisms among central cities, inner suburbs and outer suburbs.

The sharp demographic divisions that exist within today's elderly population are often overlooked because the most recently retired members of our senior population are relatively well off. They entered the workforce in a prosperous postwar period, and many bought homes that appreciated rapidly in the 1960s and 1970s. The GI Bill helped to make them the most highly educated elderly cohort in history, and large numbers of men retired with decent pensions. Moreover, as the parents of the baby boomers, they have ample social support networks.

Look closer, though, and the picture is more mixed. Poverty is more common among households headed by women, especially among seniors in their late 70s and 80s. Race and ethnicity also divide the elderly population, with blacks and Hispanics faring less well than whites on indicators of income, wealth and home ownership. Even today's new retirees will eventually bear the consequences of continued aging, in the form of disability, declining real incomes and greater dependence on family and friends.

Some metropolitan areas and retirement communities are able to attract demographically advantaged seniors – well-educated

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married couples in good health with high incomes, who demand little from public services. But most seniors simply age in place, exacerbating social divisions that were already there. The Sun Belt communities that attracted professional workers will keep them when they grow old. Similarly, suburban communities that attracted upper- and middle-income families in middle age will find themselves with elderly residents who will contribute more to the community's tax base than they take. In contrast, central cities, inner suburbs and declining metropolitan areas will continue to house disproportionate numbers of the disadvantaged elderly. And these concentrations of dependent elderly pose special challenges for private local institutions, as well as for financially pressed city and county governments.

TODAY'S ELDERLY – WHO THEY ARE

The 33 percent increase in the elderly population in the 1980s and 1990s represents a major slowdown from previous periods. For this is when the small birth cohorts of the Depression years began aging into retirement. Nonetheless, the 34 million elderly comprise almost 13 percent of the total population of the United States today.

The "young elderly," aged 65 to 74, comprise over half of the entire 65-and-over population and are the most advantaged. They are distinct from the "middle elderly," people 75 to 84 years old, and from the oldest old, people 85 or older, who are far more vulnerable to faltering health, death of a spouse and limited mobility. Women comprise 6 out of 10 people 75 to 84 years olds, and 7 out of 10 of the oldest old. While the gender gap narrowed slightly during the 1980s, life expectancy for men remains six years less than for women. This disparity, coupled with the fact that women generally marry men a few years their senior, results in increasingly large numbers of older women – usually living alone, and often in financial need.

The youngest cohorts of today's elderly attained higher levels of education than any previous generation. More than one-third of the young elderly attended college for a year or more, while two-thirds graduated from high school. This contrasts sharply with the two older subgroups of elderly, especially the oldest old – barely half of whom are high school graduates. The sharp trend toward higher education among the elderly is especially evident when one examines the change since 1960, when more than four-fifths of the elderly population had not graduated from high school and only about 10 percent had one or more years of college.

Labor-force participation rates among elderly males declined from nearly 50 percent in 1950 to the high teens around the mid-1980s. This coincides with the availability of full Social Security benefits and private pensions. But the trend toward work-free retirement has bottomed out, showing a distinct decline among the young elderly since the mid-1980s.

Labor-force participation rates among the elderly have been uniformly lower for women than for men of the same age. The current pattern is the result of two countervailing tendencies: the large increase in labor-force participation among working-aged women since the 1960s, and the general tendency toward reduced work among the elderly. But among both men and women over 75, labor-force participation is low.

Poverty among the elderly has fallen sharply since 1966, largely thanks to Social Security. Most of the decline occurred from 1966 to 1975, with poverty cut in half, to about 15 percent of the group. Today it stands

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just below 11 percent. But big income disparities exist, mostly driven by a rising earnings inequality since the early 1970s. Moreover, the low level of poverty among the elderly is somewhat misleading, because an appreciable number have incomes just above the poverty line, and their assets often make them ineligible for means-tested benefits like Medicaid, Supplemental Security Income and food stamps. Married-couple elderly households, especially those in the 65-74 age group, fare best in terms of their overall financial well being. The households that fare the worst are women living alone – especially those above 75.

Most seniors simply age in place, exacerbating social divisions that were already there.

The elderly are becoming more diverse in race and ethnicity, but do not yet mirror the rest of the population. While non-Hispanic whites make up 73 percent of the total United States population, they comprise 85 percent of the elderly population. This statistic varies geographically, with high-immigration states like California home to elderly populations that are 66 percent white, compared to the Great Plains and New England, where over 95 percent of the elderly are white.

The racial and ethnic makeup of the elderly population is important because of differing resources of (and attitudes toward) the elderly. African-Americans, the largest of the three minority groups, are poorer and have less education than their non-Hispanic white counterparts. But elderly Hispanics are even less well educated, and barely half of them own homes. Nonetheless, the Hispanic elderly are not as poor as the black elderly, in large part because a higher percentage are married. The Asian elderly are the best-educated and most successful of the three minority groups in economic terms. However, their poverty rate is still higher than the white elderly, and their rate of home ownership is somewhat lower. The household compositions of elderly Asians and Hispanics suggest that these groups will continue to have strong informal support systems in their elderly years, just as they do in earlier stages of their lives.

NATALIE FORBES/CORBIS

WHEN THE BOOMERS BECOME SENIORS

The rate of growth of the elderly will take off dramatically after 2011, increasing competition for housing and services. By contrast, those who retired in the late 1980s and 1990s did not compete much among themselves, because the group was relatively small. Moreover, as the boomers age, exceptionally

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large numbers of middle-elderly and eventually oldest-old populations will accumulate. In short, the sheer size of the boomer cohort will make successful transition into elderhood more difficult.

Other differences suggest mixed prospects for the boomers. While they are better educated than their parents, they are roughly twice as likely to be unmarried in middle age and considerably less likely to have large numbers of children. And while the better-off boomers are well off, indeed, trims in Social Security and the relative growth of single-income households, combined with a dearth of children to aid them, suggests that substantial numbers will live out their lives in strained circumstances.

EARLY BABY BOOMERS VS. THEIR PARENTS

SELECTED ATTRIBUTES AT AGE 35-44	EARLY BABY BOOMERS BORN: 1946-1955 RETIRE: 2011-2019	BOOMER PARENTS BORN: 1926-1935 RETIRE: 1991-2000
EDUCATION		
% Less than HS	14.4%	38.3%
% College Grad	27.0%	13.0%
% Persons in Poverty	8.5%	5.7%
LABOR FORCE		
% Women in Labor Force	76.6%	50.0%
% with Prof & Mgr Jobs		
Men	29.3%	29.3%
Women	32.5%	18.5%
HOUSEHOLD TYPE		
% Married Couple	63.5%	79.4%
% Female-head	13.6%	10.1%
% Non-family*	19.3%	7.8%
MARITAL STATUS		
% Divorced or Separated	16.7%	7.2%
% Never Married	11.2%	6.7%
CHILDREN EVER BORN TO WOMEN		
% None	18.1%	12.3%
% 3+	30.4%	55.0%

* includes both male and female headed non-families

SOURCE: Author's analysis of 1970 and 1990 U.S. Census

ELDERLY DIVISIONS: REGIONS, CITIES AND SUBURBS

Each year, about one-fifth of working-age Americans move. By contrast, only 6 percent of the elderly relocate, and most of their moves are local. Thus, while the migration of the elderly is important for the Hallandales and Scottsdales out there, changes in the elderly populations in most communities are driven by aging in place.

Regions and Metropolitan Areas

The current distribution of the elderly population across broad regions and metropolitan areas of the United States does not differ much from that of the rest of the population. Most elderly and nonelderly live in the Sun Belt, especially the South Atlantic part of the South, and both groups live disproportionately in metropolitan areas with populations exceeding one million.

This close alignment in population distribution is due, in part, to the relocation of the elderly over the last two decades. The growth of the elderly population through both migration and aging in place has been greatest in the Mountain West and South Atlantic states, where the climate is warm and the cost of living is relatively low.

Just as with the states, metropolitan areas with the greatest elderly growth since 1980 are located in the Sun Belt. Las Vegas, Orlando and Phoenix increased their elderly populations by more than 100 percent over the past two decades. Significant jumps in older American populations are also evident in metropolitan areas in Florida, Texas, several Atlantic Coast states and the Mountain states.

The elderly populations in the fast-growing states have higher shares of married couples, college graduates, homeowners and households earning more than $25,000 per

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year – and by the same token, lower shares of poor households, female-headed households, high-school dropouts and members of the oldest-old elderly category. Because these states tend to be located in areas with large numbers of new immigrants, they have disproportionately high numbers of Hispanic and Asian elderly as well.

The size of the increase in the suburban elderly from aging in place is clear from a look at the counties with the fastest-growing elderly populations since 1980. While the top 30 includes a fair representation of counties located in the retiree magnets (e.g., Tampa-St. Petersburg and Naples, Fla.), nearly a third of these fastest-growing counties are located in the suburbs of metropolitan areas that are not synonymous with retirement communities (e.g., Atlanta, Minneapolis). Much of this gain is due to the aging in place of suburbanites who relocated to those areas sometime during their working years.

Census survey data for 1997 show that the suburban elderly are more likely to live in married-couple households, have higher incomes and more education, and are more apt to be homeowners than their central-city counterparts. Central cities have a somewhat higher percentage of the oldest old despite the fact that they also have a larger share of minorities, whose elderly populations tend to be younger than that of non-Hispanic whites.

But this national comparison of central city and suburban populations camouflages important distinctions. Many older cities in the Northeast, Midwest and parts of the South have been unable to annex suburban territory as their metropolitan areas grew. As a consequence, these areas often display sharper city-suburb distinctions, since their city populations are less heterogeneous than those in newer parts of the country, where annexation has been more extensive.

The stereotype of the city being the primary residence for the elderly and the suburbs being the primary residence for younger populations is only barely valid today. For most large metropolitan areas, the percentage of residents over 65 in the entire area is just slightly higher than the percentage of suburban residents 65 and older. White elderly and

WHERE THE ELDERLY WENT: 1980-97

RANK	AREA	GROWTH
LARGE METROS AREAS* WITH GREATEST GROWTH		
1	Las Vegas, NV-AZ MSA	258%
2	Orlando, FL MSA	94%
3	Phoenix-Mesa, AZ MSA	92%
4	West Palm Beach-Boca Raton, FL MSA	88%
5	Sacramento-Yolo, CA CMSA	78%
6	Houston-Galveston-Brazoria, TX CMSA	72%
7	Austin-San Marcos, TX MSA	67%
8	Jacksonville, FL MSA	66%
9	Raleigh-Durham-Chapel Hill, NC MSA	66%
10	San Diego, CA MSA	63%
11	Norfolk-Virginia Beach-Newport News, VA-NC MSA	63%
12	San Antonio, TX MSA	62%
13	Atlanta, GA MSA	62%
14	Denver-Boulder-Greeley, CO CMSA	61%
15	Salt Lake City-Ogden, UT MSA	60%
SMALL METRO AREAS WITH GREATEST GROWTH		
1	Anchorage, AK MSA	256%
2	Naples, FL MSA	201%
3	Fort Walton Beach, FL MSA	194%
4	Ocala, FL MSA	183%
5	Myrtle Beach, SC MSA	171%
6	Melbourne-Titusville-Palm Bay, FL MSA	160%
7	Fort Pierce-Port St. Lucie, FL MSA	147%
8	Las Cruces, NM MSA	131%
9	Punta Gorda, FL MSA	129%
10	Jacksonville, NC MSA	120%
11	Fort Myers-Cape Coral, FL MSA	119%
12	Wilmington, NC MSA	117%
13	Honolulu, HI MSA	110%
14	Panama City, FL MSA	105%
15	El Paso, TX MSA	102%

*Large Metro areas are CMSAs, MSAs and (in New England) NECMAs with populations greater than one million: OMB definitions as of June 30, 1995.

SOURCE: *Author's analysis of U.S. Census Bureau Decennial Censuses and Postcensal Estimate Data*

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nonelderly populations are much more likely to reside in the suburbs than either the elderly or nonelderly populations of each of the three major racial and ethnic groups. The selective suburbanization of the white elderly and continued concentration of minorities in cities leads to something of a racial generation gap in the center of metropolitan areas with large minority populations.

The potential isolation of the elderly poses problems. The suburban elderly in growing metropolitan areas in the South and West have the highest level of automobile ownership. Indeed, in the suburbs of Phoenix, 91 percent of the elderly own a car or truck. This raises the question of whether they will be able to function effectively when they can no longer drive. In contrast, most of the older central cities with decent public transportation systems are home to relatively high percentages of older Americans who do not own vehicles. In New York City, 63 percent are car-free.

A similar question may be emerging about elderly who report significant disabilities. In all areas, suburban elderly residents are less likely than central city residents to report mobility limitations. But how will they cope as they age in place? One answer is that they will cope differently in different suburbs. The simple city-suburb distinction is becoming increasingly problematic in light of the extremely heterogeneous patterns of suburban development. In older areas, the extended suburban development is the legacy of a drift that began after World War II. In newer areas, central cities are less hemmed in, and the city-suburb distinction is less relevant. At the same time, inner suburban communities have been transformed into functional extensions of central cities.

Yet there are big differences between metropolitan areas. In Detroit, for example, there is a sharp distinction between the elderly of the core city and all of the other suburban communities with respect to family type, poverty level and vehicle ownership. A very large African-American population of the elderly, concentrated in the city of Detroit, accounts for much of this variation. In Los Angeles and Atlanta, the demographic distinctions are more stratified between the city, some of the inner and outer communities, and the residual areas. Atlanta fares less well than its inner suburbs or center city than Los Angeles in terms of elderly demographics. In contrast to Detroit, there is a sharp distinction between the elderly populations of Atlanta's inner communities and inner suburbs on the one hand, and outer suburbs and residual low-density territory at the periphery on the other.

Vast stretches of the Sun Belt have benefited from aging in place, because they attracted large numbers of professionals during their prime labor force-years, and retained them as they aged.

Note, however, that many suburban communities have elderly demographic profiles that resemble those of central cities with respect to family, housing and income. This points up the importance of forging political

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alliances between urban and suburban communities that provide needed services for the growing numbers of dependent elderly. A more advantaged "young elderly" group comprises a dominant share of the elderly population in peripheral parts of metropolitan areas and also in selected inner suburban communities. In many cases, they live among younger families and working-age populations. In others, they represent the beginning of the aging in place of middle-aged residents.

The fact that these young-elderly households are able to reside and function along with working-age families attests to their vitality, financial resources and generally good health. But it's not clear that they will continue to function in these relatively isolated, low-density communities when they age into the second and third stages of elderhood. Among other problems, the paucity of public transportation will reduce their mobility.

IMPLICATIONS FOR CITIES AND SUBURBS

Demographic divisions among America's elderly that deserve immediate attention already exist. The increased numbers and concentration of less privileged elderly – those in their late 70s and 80s who are economically vulnerable and prone to disability, widows heading households near poverty, people dependent upon public services and low-income minorities – pose critical challenges for their communities. And the aging-in-place phenomenon will exacerbate those inequalities, because only the more affluent will have the resources to relocate.

Of course, not all elderly who age in place create problems for their communities. Indeed, vast stretches of the Sun Belt have benefited from aging in place, because they attracted large numbers of professionals during their prime labor force-years, and retained them as they aged. Similarly, suburban communities on the outskirts of today's growing metropolitan regions benefit greatly by retaining middle- and upper-income suburbanites who age in place. Yet in large parts of the Midwest and in many city and inner suburban communities, one finds the aging in place of blue collar, less-well-off elderly along with demographically disadvantaged groups. As these elderly residents continue to age, their needs arising from failing health, death of a spouse and increased disabilities will proliferate in communities that do not have the appropriate infrastructure.

Baby boomers, with the exception of minority groups, will largely age in the suburbs, many of which will simply evolve as current communities age in place. But there will also be a growth industry in retirement communities designed to lure the better-off boomers. Those yuppie elderly will certainly be targeted by localities hoping to capture people who pay a lot of taxes but consume few public services.

One big question is what will happen to the baby boomer elderly with the fewest resources and greatest service requirements. Given the strong aging-in-place tendencies of the elderly, we can readily predict where these problems will arise and, in theory, adapt communities to the changing needs of their residents. Yet the difficulties that have always arisen in the suburbs with respect to land use and budget priorities are bound to make the adjustment problematic.

The current demographic divisions among today's elderly population are already creating significant challenges for policy makers in older cities and inner suburbs. These challenges will only proliferate in the next two decades, when even sharper divisions emerge across suburban communities in all parts of the country as the baby boomers retire. M

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Dollarization,

Yen-ization, Euro-ization ... Is the world converging to a few currency blocs?

Not so long ago, countries guarded the independence of their currencies with the zeal generally reserved for national flags, national airlines and other symbols of sovereignty. But currency crises, starting with Mexico in 1995 and ending who-knows-where have left finance ministers running for cover. And the apparent success of the euro (well... nothing disastrous has happened yet) has put a positive spin on a policy of formally acknowledging the economic suzerainty of Washington, Brussels or Tokyo.

But getting from here to there would not necessarily be easy. One problem is that countries joining a currency bloc give up all leverage over their domestic money supplies and interest rates. Another is that Europe, the United States and Japan would inherit a not-entirely-welcome power to influence output and prices in their vassals. But the most immediate issue would be scraping together the requisite supply of dollars, yen and euros to substitute for national currencies.

How much money would be involved? Glad you asked. Here's a chart showing the relative size of national money supplies at the end of 1998.

—Tom Hall

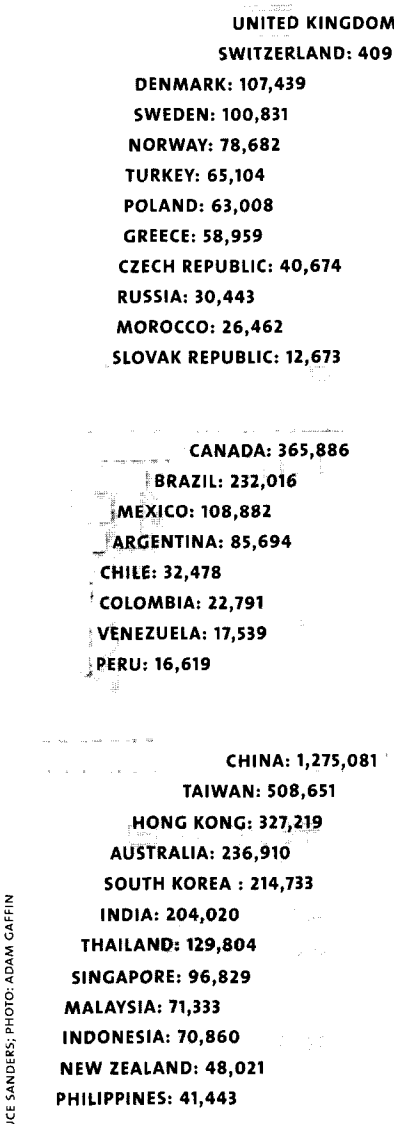

CHART: BRUCE SANDERS; PHOTO: ADAM GAFFIN

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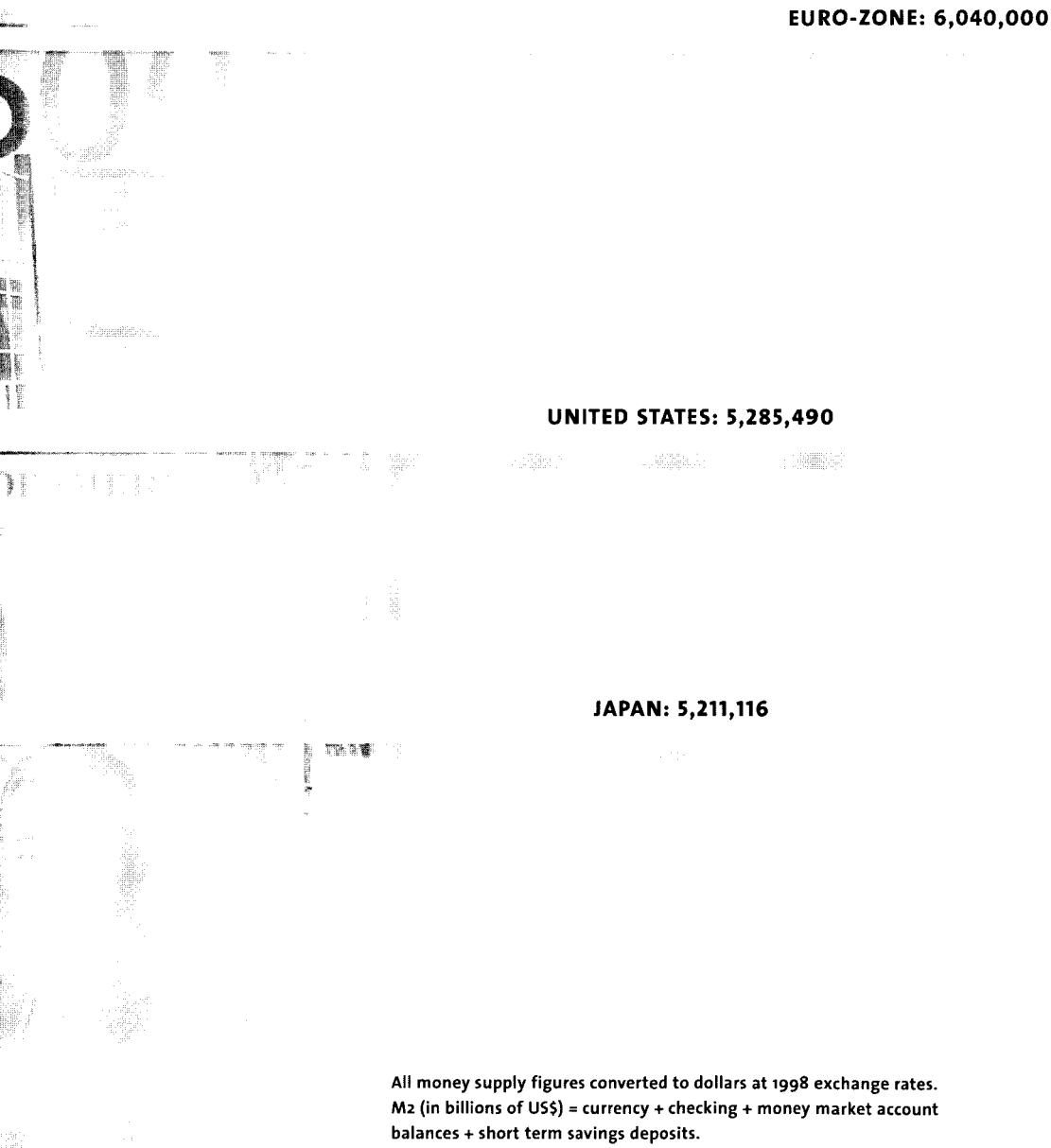
Absorbing Economies:
Can the Three Cores Swallow Their Peripheries?



All money supply figures converted to dollars at 1998 exchange rates.
M2 (in billions of US$) = currency + checking + money market account balances + short term savings deposits.

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CONFERENCE EXAMINES TECHNOLOGY'S IMPACT

More than 1,200 people attended The Milken Institute Global Conference at the Beverly Hilton Hotel in Los Angeles from March 8 to 10. They heard more than 100 speakers in 27 sessions, in the largest such conference yet. While the sessions covered a wide range of topics, the overarching theme of the conference was the impact of technology in general and the Internet in particular.

"Ten years ago, we all philosophized at conferences on the future of the information superhighway, but we had no idea this would happen," said Marc R. Benioff, CEO of salesforce.com, who spoke on a panel about e-commerce.

Not everyone, however, agreed that the Internet heralded a new economic era in which the old rules do not apply. "I would just point out that Irving Fisher, who is now acknowledged to have been the best economist of his time, was predicting an absolutely new economy on the day that the Great Crash" happened in 1929, warned Kenneth Arrow of Stanford University, who spoke on one of two Nobel laureate panels. "Every argument that Fisher made in that lecture is identical to the arguments being made by those supporting a new economy."

Michael Milken, chairman of the Institute, gave the conference's keynote speech, titled "The Promise," which focused on biotechnology and its potential to change the face of medicine. "The promise of our generation – the baby boomers – is to accelerate medical research, to use technology wisely and to eliminate diseases such as cancer and heart disease for our future generations," Milken said. For a summary of each session, or more information about the conference, go to www.milkeninstitute.org.

NEW BOOK FROM THE MILKEN INSTITUTE PRESS LOOKS AT REGULATION

With barriers to global capital markets dropping thanks to new technologies and changing political realities, countries around the world are looking to the United States for guidance on how to structure and regulate their financial systems. After all, the United States has one of the most stable, yet one of the most dynamic and efficient, financial markets in the world.

But is there a better way to regulate these markets? What, for instance, has Washington learned from past financial crises and panics? Have our regulators prevented them – or caused them? And can the best regulatory models be exported to other countries?

Restructuring Regulation and Financial Institutions, a new book from The Milken Institute Press, offers insights into the issue of how capital market regulation could be improved. The book, edited by Glenn Yago, R. Dan Brumbaugh, Jr. and James R. Barth, includes 10 papers from 16 distinguished economists, financial practitioners and government officials dealing with the regulation of banks, securities markets, pension policies, mutual funds, life insurance and derivatives. The book ($34.95) can be ordered through the Institute's Web site, www.milkeninsti-

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New Publications

- *America's Demography in the New Century: Aging Baby Boomers and New Immigrants as Major Players*, by William H. Frey and Ross C. DeVol, looks at two groups that will have a key impact on the makeup of the United States in the new century.
- *Capital Access Index. Think Locally – Act Globally: Capital Market Restructuring and Sustainable Global Economic Growth*, by Glenn Yago, Thomas Hall, Michael Harrington and Juan Montoya, is the Institute's latest ranking of countries based on the openness of their financial markets. More than 80 countries are studied in what is the Institute's most comprehensive analysis.
- *Choosing the Right Financial System for Growth*, by James R. Barth, Daniel E. Nolle, Hilton L. Root and Glenn Yago, looks at the essential role that financial systems play in promoting economic growth and development around the world.
- *Capital Access Index. Asia – Postcrisis*, by Glenn Yago and Juan Montoya, focuses on 12 countries in Asia, a region that is regaining its economic strength after the devastating financial crisis of 1997-98.
- *Postcrisis Asia: Bright Future Ahead/Crisis Postmortem and Year 2000 Prospects*, by Uwe Parpart, focuses on the postcrisis prospects of the Asian economies and capital markets.
- *The European High-Yield Market: Drivers and Constraints*, by Thomas Hall, explores the obstacles and opportunities that will affect the European high-yield bond market in the next decade.

Publications can be ordered through the Institute's Web site, www.milkeninstitute.org or by e-mail, publications@milkeninstitute.org, by phone, 310-998-2600, or by snail mail, The Milken Institute, Publications Department, 1250 Fourth Street, Santa Monica, Calif. 90401.

tute.org (note the new URL), or by calling the Institute at 310-998-2600.

THE MILKEN INSTITUTE, NYSSA CO-SPONSOR CONFERENCE ON GLOBAL CAPITAL MARKETS

The Milken Institute and the New York Society of Security Analysts will co-sponsor a seminar, "Global Capital Access," on June 27 at the Society's Manhattan headquarters. The day-long event will look at issues like electronic trading, financial reform, and the impact of corruption and other nontransparent elements on the cost of capital.

The Institute and the NYSSA will also co-sponsor a conference, "Financing the Future: A Comparative Analysis of Global Capital Markets," also on June 27 at the Society's Manhattan headquarters.

These are the first of several events to be co-sponsored by the Institute and NYSSA, a nonprofit educational organization that provides a forum for the exchange of investment information among senior corporate officials, financial analysts, portfolio managers and others involved in the investment decision-making process. It is the largest group of investment professionals in the United States.

For more information, visit the Institute's Web site, www.milkeninstitute.org, call 310-998-2605 or e-mail conferences@milkeninstitute.org. To register, visit the NYSSA Web site, www.nyssa.org or call 212-912-9249.

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KEEP IT SIMPLE. GIVE HIM THE GIST. GEORGE W. BUSH PREFERS MULTIPLE CHOICE.
JUST LIKE REAGAN!
THE ECONOMY
a. BIG TAX CUT
b. PAY DOWN DEBT
c. COIN TOSS
CHINA
a. EMBRACE
b. SCOLD
c. BOMB
d. FUDGE
AMERICA NEEDS A BIG TAX CUT!
W 4 PREZ
HIS REASONS ARE CLEAR.
ONE: IT WORKED FOR REAGAN.
TWO: READ MY LIPS. A TAX HIKE BROUGHT DOWN MY DADDY.
THREE: I'M A REPUBLICAN, SO IT'S A NO-BRAINER.
I LIKE POLICIES THAT REQUIRE NO BRAINS!
UM, SIR, WE HAVE A POTENTIAL PROBLEM.
SAYS GEORGE W.'S POLLSTERS.
IT SEEMS THAT MOST VOTERS DON'T WANT A BIG TAX CUT.
YOU'RE KIDDING! WHY NOT?!
IT SEEMS THEY RECALL OUR FRIGHTFUL RECENT EXPERIENCE OF HIGH DEBT AND DEFICITS AND THEIR SCARY IMPLICATIONS FOR THE FUTURE.
THEY BELIEVE PAYING DOWN THE DEBT WILL FREE UP RESOURCES FOR INVESTMENT THAT WILL PREPARE OUR ECONOMY TO MEET THE CHALLENGE OF SOCIAL SECURITY AND MEDICARE WHEN BABY BOOMERS RETIRE.
THEY SAY THEY WANT TO BE RESPONSIBLE.
SOUNDS LIKE THEY NEED A NICE, LONG VACATION. A SPENDING SPREE! A BIG PARTY!
IF THERE'S ONE THING I LEARNED BEFORE I BECAME GOVERNOR, IT'S HOW TO PARTY. I OFFER AMERICA MANY YEARS OF EXPERIENCE AS A PARTY ANIMAL!
IT'S ONE OF MY CORE BELIEFS! I'LL SELL AMERICA ON TAX CUTS!
TRUE LEADERS DON'T FOLLOW OPINION POLLS. TRUE LEADERS LEAD!
PAR-TEE! PAR-TEE! PAR-TEE!
THAT'S LEADERSHIP!

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The Milken Institute would like to thank the corporate sponsors of its 2000 Global Conference, held March 8-10 in Beverly Hills, California.

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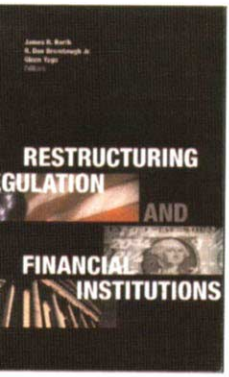

Editors: James R. Barth R. Dan Brumbaugh Jr. Glenn Yago

485 pages ■ $34.95 ■ ISBN: 0-9678083-0-8

Financial markets are among the most highly regulated markets in the world. Yet, financial crises still occur — witness the U.S. savings and loan fiasco of the late 1980s and early '90s, or the Mexican and East Asian financial implosions of 1984 and 1997.

What role does regulation play in stabilizing — or destabilizing — financial markets? *Restructuring Regulation and Financial Institutions*, a new publication from The Milken Institute Press, answers this question with incisive analyses of financial market regulation in the United States.

This book presents 10 papers from distinguished economists that examine the primary aspects of U.S. financial market regulation, including banks, securities markets, pension policies and mutual funds, derivatives, life insurance company investments, government-sponsored enterprises and systemic risk. Each paper looks at how regulation enhances or impedes the efficiency of a particular financial sector and is followed by comments from two or three noted experts.

The result is a wealth of information that can be used by anyone involved with financial regulations and institutions.

o Order: Send a check or credit card information for $34.95 per book* to The Milken Institute, Publications Department, 1250 ourth Street, Santa Monica, CA 90401 (make check payable to The Milken Institute). Attach this coupon and receive a **15% iscount** ($29.70 per book). You can also order online at **www.milkeninstitute.org.**

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